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Diagnosis-Related Groups: The Effect in New Jersey The Potential for the Nation

November 30–December 2, 1983
Atlantic City, New Jersey

Conference Proceedings

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A national conference cosponsored by the New Jersey Department of Health and the Health Care Financing Administration, U.S. Department of Health and Human Services

U.S. Department of Health and Human Services
Margaret M. Heckler, Secretary

Health Care Financing Administration
Carolyne K. Davis, Ph.D., Administrator

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FOREWORD

The Health Care Financing Administration, U.S. Department of Health and Human Services, and the New Jersey Department of Health cosponsored a national conference on Diagnosis-Related Groups (DRG's) in Atlantic City, N.J., November 29 - December 2, 1983.

This was the Nation's first federally sponsored conference on DRG's, the classification method that serves as the basis for the new prospective payment system for Medicare, which went into effect October 1983.

Under this new system, hospital cases will be assigned to DRG's for payment purposes, and hospitals will receive a set amount for inpatient costs according to the DRG classification of each case.

The prospective payment system was the outgrowth of many years of research and demonstrations sponsored by the Health Care Financing Administration. New Jersey played a pioneering role in demonstrating the feasibility of prospective payment for hospitals at the State level.

The conference focused on the development and implementation of the prospective payment system and New Jersey's experience in using DRG's. The national implications of the Federal plan to use DRG's and prospective payment for cost containment in the Medicare program were also discussed.

Seven general sessions were offered on the prospective payment system, the DRG classification scheme, and other Medicare program concerns. Also featured were a series of concurrent symposia on the impact of DRG's on various aspects of the health care system.

The following proceedings include presentations from the general sessions and symposia, as well as remarks by key guest speakers. It is hoped that this report will serve as a source document for the health community as our Nation moves into the more cost-effective approach of prospective payment under Medicare.

Carolyne K. Davis

Carolyne K. Davis, Ph.D.
Administrator

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THE ROLE OF THE DRG PROGRAM IN FEDERAL POLICY AND MEDICARE'S PROSPECTIVE PAYMENT SYSTEM

Senator David Durenberger

American medicine is in the midst of a revolution. It is a revolution driven by cost. And it is a revolution over which no one feels any control.

Patients feel powerless, even as they drop Blue Cross to join an HMO. Employers bemoan skyrocketing health benefit costs, even as they join coalitions, increase cost-sharing, and contract with Preferred Provider Organizations. Government deplores the pending bankruptcy of the Medicare trust fund, even as it passes a sweeping prospective payment system for hospitals. Hospitals claim they have little control over their costs, even as they streamline operations and develop software systems to track the practices of their medical staff.

Because Medicare is the single largest buyer of hospital services, DRGs get a lot of credit—or blame, depending how you look at it—for turning the health care system on its ear.

DRGs, however, are simply following the pattern of price-sensitive purchasing that is rapidly spreading throughout the health care sector. DRGs are a rather artificial and arbitrary way of injecting some price sensitivity into the Medicare market and realigning incentives for providers.

As you know, prospective payment fundamentally changes the economic incentives for health care providers. DRGs are only in the second month of a three-year phase-in, but the effect is already dramatic. For-profit and not-for-profit hospitals alike are, for the first time, aggressively pursuing management strategies that maximize efficiency.

DRGs are also helping to blur the distinction between insuring health care and providing health care. Under DRGs, hospitals are at risk. Health providers are already at risk in the private sector as they form HMOs and PPOs. And at the same time that providers are getting into the risk business, insurers are getting into the service delivery business. Insurance companies are very active in establishing their own HMOs and PPOs. Pretty soon the distinction between insuring care and providing it will be lost altogether.

In order to sustain the progress being made, I believe the DRG system must be expanded. That doesn't mean, though, that we should create a separate prospective payment system for every provider class. To do so would only further fragment an already fragmented health care system. No, what we must do is work to consolidate our payment for services into a single payment. In other words, we must expand the present DRG payment to include physicians, home health, skilled nursing, and other levels of care.

No doubt many of you have heard about how hospitals are responding to the price-sensitive world of DRGs. One hospital in my home state has built its own hotel attached to the hospital. That way, patients can be admitted to the hotel the night before admission, at $30 a night rather than to the hospital at a rate of $350 a night. Prospective payment rewards such behavior. Likewise, many hospitals are negotiating with nursing homes so that patients can be moved from an acute-care hospital bed to a less intensive—and less expensive—nursing home bed as soon as it is appropriate.

The new prospective payment system will obviously facilitate vertical integration—both in terms of financing and in terms of better patient care. To reward and further stimulate this development, we need to broaden the hospital DRG to include payment for other forms of care. We should start by expanding the hospital DRG to include payment for skilled nursing facility care. That way, each hospital will be responsible for directly providing or contracting for skilled nursing care. Decisions about when such care is appropriate and what price should be paid for it will be left to hospitals and their physicians.

We shouldn't stop there. Hospital DRGs should be further expanded to include payment for home health care, hospice care, and physician care. I conceive a single DRG payment that ultimately covers an entire spell-of-illness, from the time a patient enters the hospital to the time a patient is rehabilitated in the home. This single payment will cover all services, and will give hospitals and physicians a strong incentive to manage total patient care.

Separate prospective payment systems for separate providers does nothing to control overall utilization in the system. Only a single, comprehensive payment assures that substitution of services takes place at the right time and at the right price. As far as I'm concerned, it's vitally important that we continue to build this kind of prospective payment system.

I am not wedded to paying the hospital this spell-of-illness DRG. After all, it's physicians who manage patient care. If physicians are willing to step forward and receive the consolidated payment, all the better. They can then develop contractual arrangements with hospitals, home health agencies, nursing homes, and other providers. And physicians can then manage both the services and the financing. If, however, physicians are not willing to accept the payment, it should be made to the hospital.

I expect that a move toward an expanded prospective payment system will show providers that they can work together in managing total patient care. And as providers become more comfortable working with one another in providing services and containing costs, participation in Medicare's voluntary voucher will become more and more attractive.

As you all know, Congress passed a provision as part of the 1982 Tax Equity and Fiscal Responsibility Act to create a private sector option under Medicare. Beginning early next year, beneficiaries will have the option of using their Medicare entitlement to purchase coverage in the private sector. This voucher carries prospective payment to its logical conclusion.

It's important to keep in mind that even a spell-of-illness DRG has its shortcomings: Payment under DRGs is activitated at admission, which encourages unecessary or inappropriate admissions. And the patient is largely left out of any rewards that accrue under DRGs.

A voucher consolidates DRGs and outpatient services into a single, annual capitated payment. Beneficiaries use their voucher to purchase coverage in a private health plan. Health plans that keep their patients healthy and their costs down, that substitute services at the right time and right price—these plans will be very successful in attracting beneficiaries. A voluntary voucher rewards the individual patient for selecting a cost-effective health plan. And it rewards the health provider for delivering cost-effective care.

One of the shortcomings of the voluntary voucher is that there just aren't that many private health plans out there that will qualify for participation. The definition of a competitive medical plan limits participation to plans like HMOs. Over time, I expect the definition of participating plans to be broadened. For now, however, the limited definition serves to both phase in the program and reward those kinds of plans we know stimulate price competition. As the market develops, participation will be broadened.

I expect that the DRG system will greatly stimulate the development of competitive medical plans. We're already seeing remarkable interest in PPOs around the country. I fully expect that by the time Congress is ready to undertake a serious national debate about the bankruptcy of Medicare, a solution based on vouchers will be far more acceptable and attractive. Beneficiaries will like the choice. Providers will prefer the market. And Federal expenditures will be far more predictable and controllable.

In other words, although capitation or a Medicare voucher may not appear to be a very viable solution to Medicare's woes at this time, I believe we have enough time to show that such an approach can work.

The movement to price-sensitivity carries with it ramifications that I believe are not fully understood by many in the health care sector. For years, we have been able to use a relatively price-insensitive hospital market to subsidize services like care for the indigent and medical education. Hospitals that provided those services were able to build the costs into their daily room rates. This practice will become much less available as price-sensitivity increases.

Already we're beginning to see the impact. Rather than pay a premium for teaching, many private buyers of health services are directing their business elsewhere. Our own University of Minnesota Hospital is finding it very difficult to maintain its previous contracts with private health plans. They are simply unwilling to pay the educational premium for sending their patients to the University hospital.

Likewise, nonprofit institutions that have traditionally provided care for the indigent will find themselves at the same competitive disadvantage as the teaching institutions. Hospitals that build indigent care costs into their room rates will find themselves less attractive to the private buyers of health care.

The bottom line is that in the past, we had the luxury of hiding indigent care costs and teaching costs in our hospital room rates. Competition, however, forces those costs out into the open. It's important for health policymakers to recognize this development and deal with it explicitly.

I believe it is inappropriate to expect Medicare patients or private patients to carry the cost of medical education or care for the indigent. If, as a society, we value these services, then we should be willing to pay for them separately. And if we fail to undertake this task, I believe we will threaten the entire competitive system we are trying to create. Unless we fill the gaps left by a competitive system, strong political pressure will mount to reestablish the old cross subsidies.

If you don't believe me, look at how many States are seriously exploring all-payer, rate-setting programs. Rate-setting promises to reestablish cross subsidies that have existed in the system up until now. And I don't need to tell you how rate-setting systems threaten to undo all the price-sensitivity we've been working to achieve. In order to blunt the support for rate-setting systems, we must address the issues of indigent care and medical education.

Finally, I want to mention a concern that is fundamental to any effort we make to get a handle on health care costs. It involves the high cost of new treatments and new technology, and the cold and frightening prospect of health care rationing.

As patients, we've grown dangerously accustomed to the notion that we are entitled to any treatment medical researchers discover, regardless of cost. And frankly, there's no better place in the world to get sick than here in America. Thanks to our wealth, the explosive growth of medical research, and the genius of high technology, our sickness care system is second to none.

Pacemakers, artificial hips, fetal monitoring, and coronary bypass surgery are commonplace. We can pick up the newspaper every day and read about liver transplants, heart transplants, or some new artificial organ.

These advancements make us proud and increase the prospect for a long and healthy life. But there is a problem. It's a problem we've been able to ignore for years. And it threatens to erode the very medical system we've spent years building. It's the problem of cost.

As public policymakers, we've done a superb job of confusing the reasons for health care cost increases. In part, those increases are due to inflation, to inefficiency, to labor costs, to malpractice premiums, and to a host of other input costs. But by some estimates, one-third of health care cost increases over the last ten years can be attributed to improvements in treatment and technology.

Paradoxically, at the same time public pressure mounts for government to control medical costs, there is also pressure for government to pay for new medical technologies. Congress had already held hearings on coverage for liver transplants, and Medicare is ready to provide coverage for heart transplants.

Obviously, it is politically expedient to favor these coverage decisions. But by doing so, we are only digging ourselves into a deeper hole. The more government pays for, the higher the health care bill goes for American taxpayers and the public doesn't care why health care costs are going up...they just want it to stop.

No one wants to acknowledge that we can't have it both ways. If we want access to every available treatment, we must be willing to pay for them. One option is to ask each patient to pay. If you need the liver transplant, you pay for it. But one or two national TV appeals destroys this option.

A more attractive option is to redirect health dollars from inefficient uses to productive ones. But that means we must be able to make a distinction between the costs due to inefficiency and the costs due to advances in treatment.

Resource allocation discussions invariably raise some thorny ethical concerns. Take Barney Clark, for example. Dr. Clark's saga made a terrific heroic story. But what are the lessons of that story? Is one lesson, "Don't worry. If you smoke for 25 years and destroy your health, Medicare will pay to prolong your life. Your fellow American taxpayers will pay the $200,000 for your artificial heart."

As a point of fact, the Center for Disease Control in Atlanta warned us six years ago that over 50 percent of premature mortality in America is caused by the lifestyle of Americans. Our entitlement mind-set hardly encourages personal responsibility, and it raises questions about where scarce dollars should be spent.

The prospect of rationing almost sounds un-American. If I were up for reelection next year I wouldn't dare use the word. For years, the prospect of health care rationing has been used to stifle proposals for national health insurance. Yet we live in an era of limited resources. And cost constraints may very well force rationing decisions.

In fact, they already are. Millions of unemployed Americans are postponing needed health care—especially preventive health maintenance. Cutbacks in Medicaid coverage are seeping into State government. And increases in cost-sharing are changing access to mental health, drug dependency, and even dental services.

What it boils down to is that we can either deal with the rationing issues explicitly and try to come to grips with the difficult ethical and moral issues it raises, or we can ration services implicitly as government slaps cost controls on our health care system.

The recently enacted DRG system provides a good case in point. Consider what happens when a new generation of pacemakers comes along that improves the quality of life but costs more money. A hospital will lose money if it puts in the new pacemakers at the old pacemaker amount. Either the payment level will have to be increased—thereby increasing Medicare costs—or the new technology will have to be denied to Medicare patients.

Now some of you might argue that these new treatments should be covered because they will actually save money down the road. Keep in mind, however, that the congressional budget line only goes out three years. Unless a new treatment shows a return within three years, it shows up as a cost for Medicare, not a savings.

I don't have any easy answers regarding rationing. But I know it threatens the competitive marketplace we are trying to stimulate. Competitive health plans in the private sector feel the same pressure as government does to pay for extraordinary treatments. Coverage of these new treatments means higher insurance premiums, and higher premiums will raise the public ire and heighten calls for government intervention and government controls. Skeptics of competition will cite premium growth as evidence that competition has failed and that greater regulation is necessary. So, despite the efficiency gains realized through consumer choice and provider competition, Congress will be pressured to enact regulatory revenue caps in an effort to contain premium costs.

It's a grim scenario. In our reluctance to deal with the complexities of the health care problem, we are setting the stage for the worst of all alternatives: a medical system regulated by government, controlled by providers, and parceled out to patients.

There are alternatives, but they all depend upon bringing the issue before the public and discussing it openly. We must be willing to talk about the cost of new technology, resource allocation, and our priorities as a society.

The new DRG system promises to be a driving force in the health care revolution. But we cannot leave it on automatic pilot. Refinements in the DRG system itself—like a severity adjustment—as well as reforms in some of the other areas I've mentioned today, will be necessary.

These are challenging times. I look forward to working with all of you.

General Session 1

DIAGNOSIS RELATED GROUPS: A PRODUCT ORIENTED APPROACH TO HOSPITAL MANAGEMENT

Robert B. Fetter, Yale University

Abstract

Hospitals are under increasing pressure to control patient care costs through the adoption of effective management techniques such as those commonly employed by manufacturing firms. It is often asserted that the application of such methods will result in both increased operating efficiency and quality of patient care. For these methods to produce the desired results, it is necessary that the production of the patient care process within an institution be well defined in terms of the goods and services produced and utilized.

The hospital is viewed as a human service enterprise whose primary function is the provision of diagnostic and therapeutic medical services. Its products are the specific sets of services (e.g., laboratory tests, hours of nursing care, x-rays) provided to individual patients. A system for describing hospital products based on the characteristics of patients receiving similar sets of services has been developed and is referred to as Diagnosis Related Groups (DRGs).

The general structure and content of the DRGs is described. Specific applications for planning and cost control are illustrated together with extensions of the concept to ambulatory care. The implications of the system for improved hospital management are discussed in the context of these applications. Specifically, is is proposed that the system provides a mechanism which allows the medical and administrative staff to become jointly responsible for the production of patient care.

Introduction

In the last decade national health care expenditures have increased faster than the rate of inflation and now represent almost 10 percent of the Gross National Product. The largest single component is for hospital care, which has accounted for an increasing share of total health expenditures and has been a major contributor to the relative growth of the health care portion of the GNP (NCHS, 1980). Information on factors influencing hospital costs has therefore been essential to the regulatory functions of federal reimbursement programs and state rate setting authorities. It has also been critical to the production and operations management of health care institutions.

Hospital output and cost functions have been theoretically and empirically investigated in a variety of research settings (Lave, Lave, 1970; Lave, 1966; Lave, Lave, 1971; Lave, Lave, 1970; Berry, 1974; Berry, 1970; Feldstein, 1965; Lee, Wallace, 1973; Ruchlin, Levenson, 1974). The major limitation of all these studies is the method used to account for the multiproduct nature of the hospital. While there is little agreement on the definition of these products, there is concensus that a hospital produces an extensive variety of them and that differences in "product-line" play an important role in understanding cost variations among institutions and among patients within an institution.

A system for describing hospital production has been developed and is referred to as Diagnosis Related Groups (DRGs), (Fetter, 1980). The system has recently undergone extensive revisions to reflect new diagnostic and procedural coding conventions (ICD-9-CM) and suggestions from users based on their experience with the previous group definitions. This paper presents the underlying conceptual framework and operational definitions of the current version of the DRGs. Specific applications for cost control and planning are illustrated together with extensions of the concept to ambulatory care. The implications of the system for improved hospital management are discussed in the context of these applications.

The Products of a Hospital: Conceptual Framework

Defining the Concept of Hospital Product

Chase and Aquilano (1977) define product as "the output from a productive system offered for sale (in the case of a business) or otherwise made available (in the case of a governmental or philanthropic organization) to some consumer." In this context, the outputs of a hospital are the specific goods and services it provides to patients. These include, for example, the x-rays, medication and lab tests ordered by physicians as part of the treatment process as well as nursing care, operating room facilities, and certain hotel and social services. The hospital's inputs are the labor, material and equipment used in the provision of these goods and services.

The specific set of outputs provided to each patient is a "product" of the hospital.

The hospital is thus a multiproduct firm with each product consisting of multiple outputs. Its product line is potentially as extensive as the number of patients it serves. Associated with each product is a production function which describes the relationship between input of productive services per unit type and outputs per unit time. Since the product consists of multiple outputs, the relationship is described in terms of a multivariate function: $\underline{Y} = f\ \underline{(X)}$, where $\underline{Y}$ is the vector of outputs (hours of nursing care, meals, laboratory tests, medication, etc.) and $\underline{X}$ is the vector of inputs (capital, labor, material).

An Approach to Identifying and Labelling the Products

As with any firm or organization, the particular products a hospital provides may be described in terms of their content (e.g., the specific set of goods and services each patient received) or in terms descriptive of the clients who received them (e.g., women delivering babies). Since matrix organizations are project oriented, it makes sense from a budgeting, cost control, planning, and quality control perspective to identify the products in terms relevant to the project or its objectives. For example, companies in the aerospace industry generally describe their products in the context of the programs that generated the business (e.g., Apollo Project, Mars Project). For hospitals, its "projects" are individual patients. The particular product provided each patient is dependent upon his condition as well as the treatment process he undergoes during his stay.

An example of a well defined case type and the set of diagnostic and therapeutic services normally expected to be employed is as shown in Table 1. This set of services represents expected values and, of course, would be subject to some variability from individual to individual. But we might well expect this level of resource utilization on average for this kind of patient. With such a "bill of particulars" for each defined patient type or "product", one could operate the kind of flexible budgeting and cost and revenue control system common in most industrial firms.

As noted above, hospitals have a product line that in theory is as extensive as the number of patients it serves. However, while each patient is unique, he has certain diagnostic and therapeutic attributes in common with other patients that determine the type and level of services he receives. Therefore, one method for identifying products is to determine which factors are important in predicting the amount and type of goods and services provided to patients. The different combinations of the levels of these important factors (e.g., age, diagnosis, surgical procedures) describe the classes of patients with similar products.

It is important to be able to measure and control both the efficiency of the processes by which services are produced in the hospital, and the effectiveness with which these services are utilized by the provider. The first step in the development of monitoring systems for this purpose is to define the products of the hospital.

The Products of a Hospital: Operational Definitions According to DRGs

An interactive version of A.I.D. analysis (Sonquist, Morgan, 1964) was applied to a database of information from hospital discharge summaries provided by the Commission for Professional and Hospital Activities (CPHA). The purpose of the analysis was to identify characteristics of patients or "types of cases" with similar patterns of services or resource use. To this end, the A.I.D. approach examines the interrelationships of the variables in the database and determines which ones are related to some specific measure of interest, referred to as the dependent variable. This is accomplished by recursively subdividing observations into subgroups based on values of variables that maximize variance reduction of the dependent variable. Since resource use was the principal measure of interest, length of stay was selected as the dependent variable. At each stage of the analysis a team of physicians reviewed the subgroups recommended by the A.I.D. algorithm and suggested modifications to insure medical interpretability. Their participation in the analysis was particularly critical for the formation of meaningful surgical and diagnostic groups from the ICD-9-CM procedure and diagnostic codes.

Table 1

DRG 167: Appendectomy w/o Complicated Principal Dx
Age <70 w/o CC

HOSPITAL X

RESOURCE CONSUMPTION PROFILE	QUANTITY	UNIT COST	TOTAL COST
Nursing Care Days, Level 1	2	$ 65.78	$ 131.56
Nursing Care Days, Level 2	2	89.32	178.64
Dietary, Meals (STD.)	12	2.50	30.00
Operating Room Minutes	60	2.48	148.80
Recovery Room Hours	1	30.50	30.50
Anesthesia	1	42.75	42.75
Lab Test 198	1	6.95	6.95
Lab Test 205	4	11.32	45.28
Lab Test 206	3	4.16	12.48
IV Therapy 614	2	6.15	12.30
Pharmacy 1892	1	15.10	15.10
Abdomen X-Ray 1928	1	26.55	26.55
Miscellaneous			189.26
		TOTAL COST	$ 870.17

The analysis resulted in the formation of 467 distinct patient classes referred to as Diagnosis Related Groups or DRGs. Each DRG is defined in terms of one or more of the following variables: principal diagnosis, operating room procedures, comorbidities and complications (secondary diagnoses), age and in a few cases discharge status. As such, the DRGs represent a multivariable system for classifying hospital discharges from acute care hospitals into patient groups or types of cases with similar expected patterns of resource use. Thus, the DRGs operationally define the products of the hospital in terms of classes of patients with similar sets of services.

The general structure and content of the DRGs is described briefly in the following paragraphs. A more extensive discussion may be found elsewhere (Yale University, 1981).

Overview of DRGs

In order to insure clinical interpretability, all principal diagnosis codes are condensed into 23 mutually exclusive and exhaustive Major Diagnostic Categories (MDCs). The category to which a particular diagnosis is assigned is a function of the organ system it predominantly affects or the specialist who would typically provide care. Diseases that tend to be diagnosed and treated in similar ways by similar specialists are aggregated in the same MDC regardless of etiology. Under the DRG system of classification, each hospital discharge is assigned to one and only one MDC based on its principal diagnosis code.

With few exceptions, each MDC is then partitioned on the presence or absence of a procedure performed in the operating room. (All ICD-9-CM procedure codes were initially reviewed by clinicans and a list constructed of those procedures generally requiring an operating room). Discharges with at least one operating room (OR) procedure are referred to as "surgical" hospitalizations and those with no OR procedures as "medical" hospitalizations. In most MDCs, medical hospitalizations are then partitioned into clinically coherent groups of principal diagnoses and surgical hospitalizations into groups of operating room procedures referred to as procedure categories. These procedure categories are hierarchical based on intensity of resource consumption. A discharge with multiple operating room procedures is assigned to the surgical group based on the most resource intensive OR procedure within this hierarchy.

Depending on the MDC, diagnostic groups (corresponding to medical hospitalizations) and procedure categories (corresponding to surgical hospitalizations) may be further partitioned on the basis of age, the existence of comorbidities and complications, and, in a few cases discharge status. Some procedure categories are also partitioned on the basis of principal diagnosis. A compound variable, age70cc, is used extensively throughout the system. This is a dichotomous (2 level) variable which takes on the value "yes" if age>=70 and/or there are substantial comorbidities or complications and "no" otherwise. Substantial complications and comorbidities are defined as those conditions which, in the judgment of the clinicians constructing the system, would be likely to increase the length of stay for 75% of the patients by at least one day.

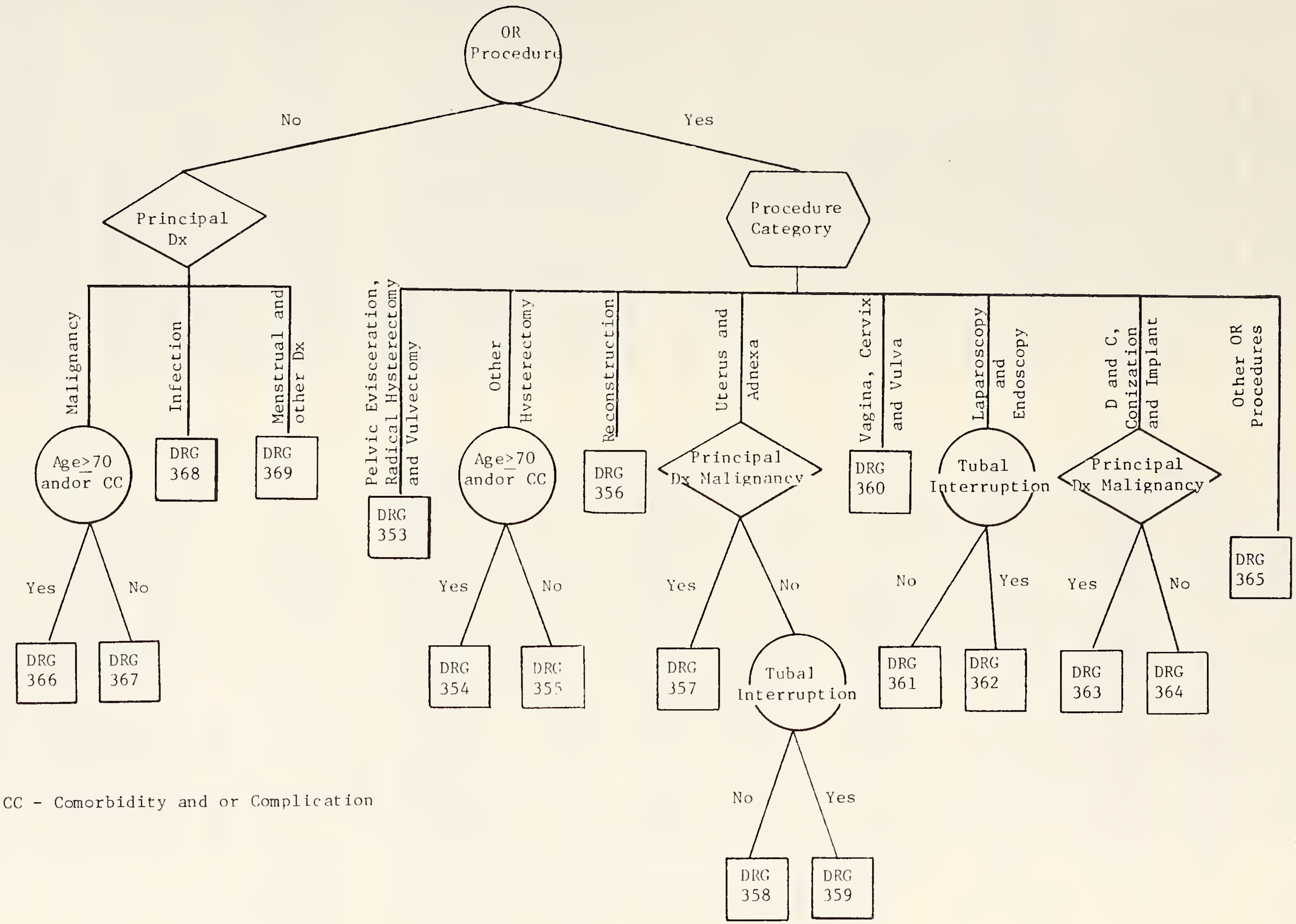
Example: Diseases and Disorders of the Female Reproductive System

As an example of how each MDC is partitioned into DRGs, consider MDC 13: Diseases and Disorders of the Female Reproductive System. The classification of discharges into DRGs or case types within this MDC is summarized in the tree diagram presented in Figure 1. Geometric symbols (diamond, circle, hexagon) represent decision points in the division process and contain the variable used in the decision. Lines emanate from the symbol indicating how the groups were split on the basis of that variable. Final groups or DRGs are represented by squares. Inside each square is the sequential DRG number.

Medical hospitalizations in MDC 13 are divided into three diagnostic groups corresponding to diagnoses of malignancy, infection, and menstrual and other diagnoses. Discharges with a malignancy diagnosis are further partitioned on whether or not age is greater than or equal to 70 years and/or there are substantial comorbidities or complications. Thus, medical hospitalizations, with a principal diagnosis pertaining to diseases and disorders of the female reproductive system, are divided into four case types or DRGs:

Figure 1

Major Diagnostic Category 13:
Diseases and Disorders of the Female Reproductive System



CC - Comorbidity and or Complication

DRG	Description
366	Malignancy of the female reproductive system with age at least 70 years and/or substantial comorbidities or complications
367	Malignancy of the female reproductive system with age less than 70 years and no substantial comorbidities or complications
368	Infections of the female reproductive system
369	Menstrual and other female reproductive system disorders

Surgical hospitalizations in MDC 13 are divided into eight procedure categories: (1) pelvic evisceration, radical hysterectomy, and vulvectomy, (2) other hysterectomy, (3) reconstructive procedures, (4) uterus and adnexa procedures, (5) vagina, cervix and vulva procedures, (6) laparoscopy and endoscopy, (7) D&C, conization, and radio-implant, (8) other OR procedures. The surgical hierarchy of these categories follows in the same order, with pelvic evisceration, radical hysterectomy, and vulvectomy being the most resource intensive and other OR procedures the least. Within this hierarchy, for example, a discharge with both a D&C and a hysterectomy would be assigned to the hysterectomy category. As indicated in the diagram, four of these categories are further partitioned on the basis of age and/or the presence of substantial comorbidities or complications, principal diagnosis of malignancy, and tubal interruption.

In summary, surgical hospitalizations with a principal diagnosis pertaining to diseases and disorders of the female reproductive system are divided into thirteen case types or DRGs:

DRG	Description
353	Pelvic evisceration, radical hysterectomy, and vulvectomy
354	Non-radical hysterectomy with age at least 70 years and/or substantial comorbidities or complications
355	Non-radical hysterectomy with age less than 70 and no substantial comorbidities or complications
356	Female reproductive system reconstructive procedures
357	Uterus and adnexa procedures for malignancy
358	Uterus and adnexa procedures for non-malignancy except tubal interruption
359	Tubal interruption for non-malignancy
360	Vagina, cervix and vulva procedures
361	Laparoscopy and endoscopy (female) except tubal interruption
362	Laparoscopic tubal interruption
363	D&C, conization and radio-implant for malignancy
364	D&C, conization except for malignancy
365	Other female reproductive system OR procedures

Conclusion

Concern over the rising costs of medical care has resulted in increased pressure on hospitals to control patient care costs through the adoption of more efficient management techniques, such as those commonly employed by manufacturing firms. The successful transfer of these methods to the hospital sector requires a structure for examining utilization of services and for establishing standards and criteria for identifying areas which require improvement. The first step in providing this structure is to define what the hospital is producing.

As currently constructed, the DRGs provide hospital administrators and physicians with a powerful mechanism to understand and control hospital costs. Specifically, total costs within an institution can be broken down not only by type of product but also by type of output. Control systems can therefore be designed to monitor the production process in a manner far more precisely and comprehensively than has been previously possible.

The potential role of the DRGs in controlling hospital costs is clearly apparent in the areas of case-mix accounting and strategic planning. As illustrated above, changes in product or diagnostic mix can identified and planned under this system. Moreover, the implications of actual or proposed changes in diagnostic mix can be estimated. Whether these changes be positive or negative changes, or positive in some areas and negative in others, make little difference; all can be approached by the same methodology. The financial implications of these changes and their consumption of specific resources by type and kind can be understood. This can only be done if one can generate from the total population a series of describable "patient products" which use similar resources.

The implications of changing or different patterns of medical practice can be identified. It is felt that these implications can be stated in terms which both physicians and administrators can understand. The implications of the way physicians allocate resources and the consequences of that allocation process on the administrator's concern with the finances of the hospital can now be explained in terms more meaningful to the physician than nursing costs per day or raw food costs per meal. Whether this will result in a change in behavior of either is another question, but the main problem now is that we can test whether or not the increased information and subsequent education can change the physician's allocation behavior or that of administration. Our existing departmental costing mechanisms do not permit the physician to make the connection between pounds of laundry per day and the way he is treating certain patients, and, up until now, this inability has too often been termed irresponsibility by those managing the hospital. The product oriented approach of the DRGs allows both administrators and clinicians to ascertain the cost and quality implications of the various treatment plans within an institution.

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DRG ASSIGNMENT AND THE NEW JERSEY EXPERIENCE

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In the previous discussion, you have seen how Diagnosis Related Groups (DRGs) were constructed based upon statistical and clinical input and cost information. Thus the 468 DRGs are reflective of "real world" experience.

New Jersey has had a DRG system in effect for patient billing in acute care general hospitals since 1980. Our system differs from Medicare's system, in some aspects, but the basic block, the DRG, is the same.

In both New Jersey's DRG system and Medicare's Prospective Payment System (PPS), DRGs are the basis for setting rates, for billing patients and for reports that can be generated to pinpoint areas of hospital efficiencies and inefficiencies. These topics will be discussed in later sessions during this conference.

How does a hospital, fiscal intermediary, utilization review organization or regulatory agency assign DRGs? It can either be done by hand or by computer, which is definitely preferable. The computer program which assigns DRGs is called GROUPER.

Certain information must be extracted from the patient's medical record. This information is the following:

- Principal Diagnosis (Dx1).
- Secondary Diagnoses (up to 14 accepted) (Dx2).
- Principal Procedure (OP1).
- Secondary Procedures (up to 14 accepted) (OP2).
- Discharge Status (disposition).
- Sex.
- Age.
- Admission and Discharge Dates.

To explain each of these data elements, I will go through them in detail. First, Principal Diagnosis is the reason, after study, for occasioning the admission of the patient to the hospital. This means after the X ray results have been read, after the pathology reports are in, and after other laboratory results are submitted. Principal diagnosis is usually assigned (as is DRG) after discharge. The faster all the results of tests are in, the sooner the hospital can send the bill to fiscal intermediaries.

Next, secondary diagnoses are considered "all conditions that exist at the time of admission or develop subsequently which affect the treatment received and/or the length of stay. Diagnoses that relate to an earlier episode which have no bearing on this hospital stay are to be excluded", (American Hospital Association's Uniform Hospital Abstract: Minimum Basic Data Set, 1978). We use that definition in New Jersey. Secondary diagnoses can affect DRG assignment. If there is a split on comorbid condition/complication, a patient without any secondary diagnoses that are considered comorbid conditions/complications will go into a less resource consuming DRG than a patient who has a secondary diagnosis that is considered a comorbid condition or complication. For example, if a 67 year old patient has a principal diagnosis of liver disease, no operating room procedure and a secondary diagnosis of mitral stenosis, that patient would be assigned to DRG 205; (which has a relative weight of 1.0822) with only the liver disease, he would be assigned to DRG 206; (which has a relative weight of 0.9247).

The computer program for the 468 DRGs, GROUPER, will search all secondary diagnoses listed and use what it needs for the particular conditions of DRG assignment within each MDC. In addition to comorbid conditions/complications, in certain instances, specific secondary diagnoses are used. For example, if a 65 year old patient falls into MDC 01, Diseases and Disorders of the Nervous System, has no operating room procedure, has a principal diagnosis of Closed skull fracture with other bone fracture (804.00) and no secondary diagnosis, he would be assigned to DRG 29, Traumatic Stupor and Coma, Coma< 1 Hour. If, on the other hand, he had a secondary diagnosis of Closed skull with other fracture, moderate coma (804.23), this patient would be assigned to DRG 27, Traumatic Stupor and Coma, Coma> 1 Hour. DRG 29 has a relative weight of 0.7175, DRG 27 has a relative weight of 1.1368. In this example, the moderate coma code (804.23) can be in any diagnostic position-the computer will search all diagnoses.

This leads into another issue, "DRG Creep" or maximization. The term "DRG Creep" was coined by Dr. Donald Simborg in an article in the New England Journal of Medicine, June 25, 1981. It means "a deliberate and systematic shift in a hospital's reported case mix in order to improve reimbursement."

DRG Creep was more of a problem with the old 383 DRGs in effect during 1980 and 1981. The computer program for those DRGs used the principal diagnosis and the first listed secondary diagnosis (and first listed procedure) for DRG assignment. A hospital could arrange the secondaries in an order to allow DRG assignment to a more resource consuming DRG.

In New Jersey, where DRGs were implemented for hospital billing in 1980, we felt that if that secondary diagnosis did indeed affect the treatment or the length of stay, then the hospital should be reimbursed for it. However, we also followed the Minimum Basic Data Set definition for additional diagnoses, and mandated that any diagnoses and procedures used for DRG assignment, had to be documented in the medical record. Documentation could be lab reports such as a report of high blood sugar for a diagnosis of diabetes, or pathology reports that a lump was malignant, but there must be documentation somewhere in the record. Such specificity also makes a point for medical record departments to use the entire record, not just the face sheet to code. In some New Jersey hospitals where medical record departments could use only the face sheet, data quality and accuracy of DRG assignment (therefore reimbursement) was notably worse than in hospitals where the medical record professionals could go through the whole chart.

Third, for DRG assignment to the 468 DRGs, principal procedure and other procedures are required. New Jersey developed a three step definition of principal procedure. "The following criteria should be applied in sequence:

- If only one procedure was performed, it is the principal.
- If more than one procedure was performed, the principal procedure is one which was performed for definitive treatment, rather than one performed for diagnostic or exploratory purposes, or was necessary to take care of a complication.
- If more than one procedure was performed for definitive treatment, the principal procedure is that most related to the principal diagnosis."[1]

Other procedures (up to 14) may be used in DRG assignment. Operating room procedures are those that are usually done in a fully equipped operating room. Examples are appendectomy, cholecystectomy, and mastectomy. Non-operating room procedures are procedures such as closed reduction of fracture, nasal packing, and temporary tracheostomy.

It is the ICD-9-CM codes that are used, not verbal descriptions of diagnoses and procedures. DRGs must be assigned with specific 5 digit diagnosis codes and 4 digit procedure codes. If diagnosis codes are used that are valid 3 or 4 digit codes, then they are left justified. For example V51 is a valid 3 digit diagnosis code. It would be entered as V5100 or V5100. Grouper can read either zeros or blanks as filler.

There are class 4 procedures which can affect DRG assignment. For example, 0118, Other brain dx procedure, and 0339, Other spinal dx procedure are Class 4 procedures and also considered operating room procedures in the 468 DRG assignment program.

Fourth, discharge status codes used by GROUPER are as follows (DSTAT):

- 00 - Invalid.
- 01 - Home, self care (routine).
- 02 - Short term hospital.
- 03 - SNF.
- 04 - ICF.
- 05 - Other facility.
- 06 - Home health service.
- 07 - Against medical advice.
- 20 - Died.
- 30 - Still a patient.

Discharge status, or patient disposition is used in some MDCs to split DRGs. For example, MDC 15, Newborns, breaks first on discharge status. If the baby was transferred or died, the DRG assigned is 385. If the baby was not transferred or did not die, then other newborn DRGs are assigned. Discharge status is also used in MDC 22, Burns and MDC 05, Diseases and Disorders of the Circulatory System. In MDC22, if a patient is transferred to an acute care facility, the DRG assigned is 456. In MDC 05, if there is no operating room procedure, and an acute myocardial infarct ocurred, then if the patient died, the DRG assigned is 123. If the patient did not die, the DRG assigned is either 121 or 122.

In addition, PPS will be paying for transfers on a slightly different basis than nontransfers. In New Jersey, we use discharge status to determine certain outlier categories, which I will discuss a little later.

Fifth, sex of the patient, either the number "1" for male or "2" for female is used in DRG assignment. There are certain codes, such as V25.20 Sterilization, that can apply to either male or female patients. Grouping into the proper DRG depends initially on the number, "1" or "2", for patient sex. The number 1 would cause a patient with a principal diagnosis of V25.20 to be placed into MDC 12, Diseases and Disorders of the Male Reproductive System. A sex code of 2 would cause the patient to be placed into MDC 13, Diseases and Disorders of the Female Reproductive System.

Sixth, age at admission is needed. Yes, we have seen patients who had a birthday during the hospital stay and it did cause a DRG assignment change. There are many splits on Age 70 and/or CC. To clarify the term "Age 70 and/or CC" means that a patient with age less than 70 *and* no comorbid conditions and complications goes into a less severe DRG. A patient aged 70 and over and a patient less than 70 but *with* comorbid conditions or complications both go into a more severe DRG.

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[1] Uniform Bill-Patient Summary (Inpatient) Regulation, NJAC 8.31B-21, New Jersey State Department of Health, 1982, Trenton, NJ

Seventh, admission and discharge dates are used to calculate length of stay status. Medicare's PPS has high length of stay (LOS) patients (outliers). For example, the outlier cutoff for DRG 01, Craniotomy, Age 17, Except Trauma, is a length of stay of 39 days. That means that if a patient in that DRG stays 40 days, he is an outlier under PPS and extra payment will be considered. As you can see, data quality and timeliness is *extremely* important.

Right now, I'd like to take you through DRG assignment by hand using the Definitions volume. This is what you would use to assign DRGs by hand, which is not recommended.

For the purposes of this example, the following patient record has been created. (GROUPER codes are in parentheses).

- Dx1 = 816.01, Fracture of finger, closed, middle or proximal.
- Dx2 = E9170, Struck by thrown or hit ball.
- OP1 = 79.34, Open reduction of fracture with internal fixation.
- OP2 = 0.
- Age = 32 years (032).
- DSTAT = Home (01).
- Sex = Male (1)
- LOS = 2 days.

First, since the principal diagnosis has to do with a bone injury, this patient would go into MDC 08, Diseases and Disorders of the Musculoskeletal System. Turn to MDC 08 and check the Dx1 code in the list of Dx1s in this MDC. Check any secondary diagnoses for inclusion in Appendix D, Diagnoses Defined as CC, and any procedure for inclusion in Appendix B, OR Procedures. The E codes are not used for DRG assignment, so the Dx2 is considered blank by GROUPER. The procedure code 7934 is included in Table B, so it is an operating room procedure.

Most MDCs are divided into a surgical side and a medical side. On this record, since there is an OR procedure, look on the surgical side of the tree diagram. The procedure is a hand procedure, but without a Dx1 of ganglion. Probably this patient should be assigned to DRG 229.

Then, turn past the tree diagram and look at the specific codes for DRG 229 assignment. Procedure code 7934 is on the operating room procedure list for DRG 229. This patient does go into DRG 229.

There are three DRG codes returned by GROUPER that need explanation. DRG 468 is "OR Procedure Unrelated to MDC" (or principal diagnosis). For example, if the patient in our example above had a closed reduction of his finger fracture (which is not considered OR) and also (as long as he was in the hospital) had a hernia repair, he would be assigned to DRG 468. Hernia repair is related to MDC 06, Diseases and Disorders of the Digestive System, not to MDC 08. A patient can be validly assigned to DRG 468, but the record should be checked to make sure that coding is correct.

DRG 469 returned by GROUPER is a bad data indicator. It means that the principal diagnosis used is not valid and these DRG assignments are usually in MDC 14 or 15, the pregnancy and the newborn MDCs. For example, the diagnosis code V30.20, Single liveborn, not hospitalized, should never appear as Dx1 on an acute care hospital inpatient record. DRG 469 will be assigned.

DRG 470 is also a bad data indicator. For example, a patient with a principal diagnosis code of 530.11, an invalid ICD-9-CM code, will be assigned to DRG 470. A burn patient with a discharge status code of "41" (a non-existant code) will be assigned to DRG 470, because "41" is an invalid code and discharge status is used in DRG assignment of burn patients.

When either DRG 469 and 470 are returned by GROUPER, the record must be examined and corrections made.

Once the DRG is assigned, outlier status can be determined. Medicare's PPS has a high outlier category as previously discussed. New Jersey has 7 outlier categories. These are all patients considered atypical in terms of length of stay or resource consumption. New Jersey has an all payer system, which means that all patients (or their insurance carriers) are billed the DRG payment rate. Therefore, the rate should reflect typical resource consumption for any given DRG. Patients considered outliers are billed charges. New Jersey's outlier categories are as follows:

- Low length of stay (patients whose length of stay is below the low trim).
- High length of stay (patients whose length of stay is above the high trim).
- Patients admitted and discharged on the same date.
- Patients who left against medical advice.
- Patients in clinical outlier DRGs.
- Patients in low volume DRGs.

One thing which I should mention, is that other modifications to the DRG system were made in New Jersey. The trim points are closer together than in PPS, and a set of restrictions on the use of ICD-9-CM codes for DRG assignment was implemented. Two of the restrictions are that manifestation codes can only be used as secondary diagnoses, and that vague codes should not be used. The restrictions serve to improve ICD-9-CM coding practices.

Now that you know how to assign DRGs, who should assign the DRG? Under PPS, the hospital will send the Medicare form (UB-82) to the fiscal intermediary who will assign the DRG and make the payment to the hospital. Hospitals might want to start assigning DRGs themselves for internal purposes.

In New Jersey, the hospitals assign the DRGs and send the bill to patients or payers. We have found that within whatever organization assigns DRGs, medical record professionals are the best choice to actually do the assignment. They are trained in the nuances of ICD-9-CM coding, such as use of manifestation codes as secondary diagnoses only, and proper use of fifth digits on certain diagnosis codes. They know when codes and verbal descriptions don't agree. They are trained to abstract the proper information from the medical record. They can relate the DRG assigned to the patient.

In New Jersey, the medical record profession has always behaved with the highest degree of integrity and ethics. The Medical Record Association of New Jersey has become extremely involved in education of its members, interaction with PSROs and the Medical Society, and in in-house education of physicians, administration and other departments. You will hear more about these issues in later sessions.

There must be communication between all departments within a hospital in order to respond to the incentive to become more efficient, and quality of care must be maintained.

We have found in New Jersey that the DRG system has promoted greatly increased levels of communication between hospital departments, and between various sectors of the health care industry, such as payers, PSROs, and regulators.

It is to your benefit and your organization's benefit to learn all you can about the DRG system and use it to provide quality care in the most efficient manner.

MEDICARE'S PROSPECTIVE PAYMENT DEMONSTRATION PROGRAM

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INTRODUCTION

- For over 10 years, Medicare has been engaged in a comprehensive program of research, evaluation, and experimentation with a variety of prospective payment systems.

- But this year, after an investment of over $25 million and the full time efforts of 7-10 individuals for 10 years, this research and demonstration experience has led to the design of a new Medicare prospective payment system.

Demonstration Design and Strategy

- The basic objective of our demonstration effort was to gain experience on the effects of a broad range of prospective payment methods. While we could easily speculate about the likely results of any program, we carried out our demonstration effort knowing that:

    - Only a live test could really show the likes and dislikes, the advantages and disadvantages, and the incentives and disincentives of each program both from a payer's and a hospital's point-of-view.

    - Only a live test could generate the problems and the unexpected that always seem to occur, and which make a demonstration an even more valuable learning experience.

- The second objective of our demonstration effort was to improve the state-of-the-art in prospective payment techniques. We believed that continued refinements and improvements would originate directly from the demonstration programs in order to counter any disadvantages in those systems. We also expected that technical advancements funded by our research dollars would be gradually introduced into the existing programs.

Budget Review Programs

- Our first ventures into prospective payment were pure budget review programs. Certainly there was little risk in joining such programs, especially if they were based on Medicare principles of reimbursement. Under retroactive cost reimbursement a hospital could spend as much as it wanted; under a budget review program at least the payers had a chance to negotiate a budget.

- There was also little risk for a hospital since there was little interhospital comparison, budgets were based on prior year costs, and the payment method was basically Medicare's apportionment method based on cost to charge ratios.

- We joined programs with Rhode Island Blue Cross, the University of South Carolina, and Blue Cross of Western Pennsylvania in 1974.

- After joining those programs, we found very quickly that budget review causes payers to become directly involved in negotiations concerning the administration and the cost structure of each hospital. In addition, the budget reviewers are placed at a serious disadvantage in face-to-face negotiations with the hospital's own staff.

- We also found very quickly that prospectivity meant different things to payers and hospitals. While all parties went into these systems with the very basic concept that once rates were set they were final, very quickly each party began to discuss retroactive adjustments most often to reduce some risk to either side. Good examples would be for errors in inflation predictions or volume changes. Another example would be to retroactively adjust for some nonallowable cost undetected in a hospital's budget during the review.

- In all our demonstrations that followed, we continually found the conflict between setting fixed prospective rates and retroactively adjusting the rates to reduce risk to both sides.

- The Rhode Island program did initiate the concept of a global limit or MAXICAP. In the Rhode Island program a statewide increase in hospital costs was prospectively negotiated between the hospital association, third party payors, and the State Budget Office. Each hospital budget was then negotiated with the knowledge that the MAXICAP contraint was binding at the statewide level.

- Western Pennsylvania was basically a detailed budget review program but from 1976 to 1979, a revised budget review program was also demonstrated that used a formula to screen overall budget requests. This test would determine whether overall costs were out-of-line with the costs of similar hospitals in the Western Pennsylvania area. In many respects, however, the program followed the experience of the earlier budget review program in that it was difficult to avoid the detailed reviews.

- By 1975, we were firmly convinced that a detailed budget review program would be impractical to implement nationwide unless processes could be developed to limit the review requirements. There was significant interest in budget review by exception programs. Under this type of program we believed that the burden of proof would shift to the hospital to show why any budget item should be approved when it was out-of-line as compared to other hospitals.

California Hospital Associaton

- Several contracts were negotiated in 1975. A contract was awarded to the California Hospital Association to develop a prospective payment scheme which used a multi-stage budget screening program. Hospitals would submit budgets which were reviewed first at aggregate levels and then at successively more detailed levels if its budget failed any comparative norms. The budgets for all hospitals would also be subject to an area-wide aggregate expenditures forecast. However, no demonstration was conducted when agreement could not be reached on a formula limit for the forecast. We also disapproved a request by the California Health Facilities Commission to develop a similar system, and awarded the California Department of Health a contract to develop a formula approach to rate setting. However, the State legislature forced the Department of Health to turn the contract down because there was no consensus on who should regulate hospital rates in the State.

Yale University

- In early 1975, we awarded a contract to Yale University to develop a case payment reimbursement system. Our hopes were that the developmental effort would lead to a prospective payment system based on a diagnosis specific payment unit or at least would lead to techniques for taking case mix differences into account in exisiting prospective payment systems.

- By the end of 1975, the contract had resulted in the identification of 317 Diagnosis Related Groups (DRGs) covering the entire acute hospital setting and a corresponding set of 198 DRGs to be used on the Medicare data set. The project also developed techniques for costing out each of the cases and tested for several years how DRGs could be used to manage a hospital.

Maryland

- We also started serious discussions with the Maryland Health Services Cost Review Commission about a Statewide demonstration program.

- The basic features of the Maryland system are:
    - An initial budget review performed for each hospital in a base year.
    - Rates set by department, such as revenue per day or per lab test, and
    - Inflation increases announced periodically.

- If a hospital accepts the announced rate of increase, the new rates are approved essentially automatically. If the hospital needs a higher increase, it can request a budget review.

- It was hoped that given the automatic inflation increases hospitals would not need a review annually. As it turned out, hospitals seemed to prefer the guaranteed increase on their base rates rather than undergo a full review.

- Hospitals may also have found that they could generate additional revenues by increasing ancillary services. Very quickly the Commission began to investigate aggregate limits on increases. They developed their Guaranteed Inpatient Revenue (GIR) system which controls the rate of increase in a hospital's own costs on a per case basis. A hospital could still automatically increase rates but the increase in its revenues for diagnostic classes of cases as measured by DRGs or other major diagnostic categories could not increase by more than a prescribed amount.

Request of Proposals - 1975

- In late 1975 Medicare issued a request for proposals to develop and test prospective payment systems. The awards resulting from the RFP in late 1976 included our second demonstration with Blue Cross of Western Pennsylvania, the contract with the California Department of Health which was later turned down, contracts with the Connecticut Commission on Hospitals and Health Care, the Washington State Hospital Commission, the Blue Cross Association with the Hospital Association of New York State to develop a program in the Rochester area of New York, the Massachusetts Rate Setting Commission, and the New Jersey Department of Health.

Connecticut

We funded a developmental effort with Connecticut to improve their rate setting program but decided not to join a demonstration. There was always a significant amount of tension between hospitals and the Commission. Even when an overall test of reasonableness was started to avoid detailed reviews of hospitals who passed the test, there were concerns that the test was unfair because some hospitals would feel pressured to forego necessary increases in order to avoid a budget review.

Washington

In Washington, the Commission had set up a sophisticated budget review program. Annual budget reviews are conducted with a computerized screening program. No areas of a hospital's budget are left untouched. Both the level of costs and the rate of increase in costs are compared to other hospitals which are assigned to the same peer group. The Commission even scrutinizes each aspect of a hospital's capital budget.

Medicare participated in a 3 year demonstration in Washington starting in July 1, 1977, to test the effects of different payment methods.

As a result, we found that constraining a hospital under a total budget system led to more adjustments than anticipated. Small hospitals particularly had problems with this system because of large volume swings that could occur quickly. Payment based on a percent of charges eliminated the basis for mid-year adjustments based on volume, and hence, reduced the number of reviews. While the system does work smoothly in the State of Washington, it would be difficult to imagine such a system being set up only for Medicare.

Rochester

Our contract with the Blue Cross Association called for the development of a community budget for hospital care. The site would be the Rochester area of New York State and in particular the entire Finger Lakes Health Systems Area. All the specifics of the project were worked out in detail. As envisioned, once a community hospital budget was agreed upon by the payers, the hospitals then would negotiate their own budgets. However, no agreement could be reached. Demonstration projects were later negotiated separately with the Rochester Area Hospitals' Corporation to start a demonstration in 1980 and the Finger Lakes Area Hospitals' Corporation in 1981, but the way they worked was different.

    - Each program does have an areawide pool of dollars.
    - The pool is determined by trending forward a base year of total costs in the region plus 2 percent.
    - But the individual hospitals guaranteed themselves the majority of the pool by a fixed formula which is essentially their original base times inflation.
    - The Corporation simply has a 2 percent pool from which it can make additional payments to hospitals for items such as volume changes, the first year costs of CON projects, and any case mix adjustments.

- Perhaps the more important observations about these projects are:
    - The base year is fixed for 3-5 years.
    - The 2 percent fund leaves little discretionary dollars.
    - Small rural hospitals have some trouble with the system since it does not automatically adjust for case mix changes caused suddenly by the addition or loss of physicians.
    - Hospitals rejected the original idea of a wide open budget review in which they might lose dollars to other hospitals and each wanted instead to be guaranteed a large portion of their own base.

Massachusetts

- Massachusetts was another case where we were unable to negotiate the original demonstration anticipated. However in 1982, the Massachusetts Hospital Association and Blue Cross of Massachusetts proposed to Medicare that they adopt the current Blue Cross contract. The contract calls for a fixed base year for each hospital which would be held fixed for 3 years. Increases were prescribed by contract for volume and intensity changes. However, there were no base year comparisons and it did include several other generous features when compared to Medicare principles of reimbursement. Eventually, the business community became involved in the formulation of the proposal and all payers were to be offered a 2 percent productivity adjustment each year for 3 years and a 1 percent per year adjustment for 2 more years. The adjustments are percentage reductions in base year costs for each hospital. Hospitals could, however, make exception requests to Blue Cross and must also request budget changes for new services or facilities as a result of certificate-of-needs.

- An important observation to make is that the productivity adjustments substitute to some extent for a system of ceilings and penalties for high cost hospitals. They basically guarantee status quo for all hospitals and suggest a general belt tightening for each one.

New Jersey

- Certainly one of the most important efforts we supported was the effort by the New Jersey Department of Health to establish prospective payment rates based on DRGs incorporating the earlier work of Yale University.

- Years of work were required to assemble a data base of bills, abstracts and cost reports and to refine the system. This effort was further complicated by legislation requiring the State to change to an all payer system where originally the program was going to apply to Blue Cross, Medicare and Medicaid.

- As part of the New Jersey work, the DRGs were refined to 383 patient types by 1980 when the payment was initiated in a third of the hospitals.

- More complications were brought about by the introduction of ICD-9 CM in the United States. Conversion programs had to be written to deal with the problem of DRG payments based on ICD-9 CM codes, and rates based on DRGs constructed from earlier coding systems.

- However, very soon after the set of 383 DRGs was developed, we had recognized many of the criticisms which were being raised against the development and structure of the DRGs. By 1979 we had already negotiated a grant with Yale University to completely redo the DRG definitions to address those criticisms and to account for the adoption of ICD-9 CM. By 1982 this new version of the DRGs was actually implemented in the State of New Jersey.

- A few observations about New Jersey's system are necessary. First, New Jersey never did implement completely a standard payment for each DRG. The rate for each DRG in each hospital is based on a mixture of Statewide standard and a hospital's own costs for each DRG depending on a measure of variation in the specific DRGs costs Statewide. The more variation Statewide, the more the hospital's own costs are used. This does mean, however, that there is no consistent relationship between DRGs in each hospital.

- Second, because the system is an all payer system, there was a need to create more outliers. This was because it became troublesome to charge the average amount to private pay patients.

- The State does use a rate-to-rate system where DRG rates are inflated forward. However, the need for more outliers causes more bills to be paid on a controlled charge basis and the after the fact compliance checks on the system have been very time consuming in order to verify that only approved revenues have been collected.

Case Mix

- While we were conducting all of these projects, there were several other programs underway which involved the treatment of a hospital's case mix.

Georgia

- We funded a developmental effect in Georgia to develop a prudent buyer program. However, in a matter of months, the State decided that they could not at that time select only certain hospitals to provide certain types of cases. Instead they began to develop a per admission target rate incentive scheme as a first step.

- Hospitals were placed into groups with similar case mix and facility characteristics. The grouping scheme was a cluster analysis technique developed by the University of Washington under a HCFA contract which was modified to account for the specific volume of cases in each DRG.

- Each hospital had its own target per admission rate based on its historical costs and its relative costs compared to its group's average cost.

- The group limit was firmly set based on cost each year. The hospital specific rate was guaranteed, therefore, if it came in under target it kept the difference.

- Hospital payments were also adjusted retroactively for actual case mix.

- The system was placed into operation for 1 year for Medicaid and stopped.

- What happened? The system was extremely complicated, not only to explain, but also to administer. The system required a significant amount of information beforehand as well as many adjustments to be made retroactively.

- The State worried about the predictability of their payments and hospitals did not react to the system's incentives. Instead, they worried about the possibility of Medicare being added to the system.

New York

- Our demonstration program has been funding case mix research activities in the State of New York for a number of years, as well as efforts to improve their cost reporting, billing and abstract data systems.

- While there had been many discussions with the State about a Medicare demonstration, we generally insisted that there was no interest in a per diem payment system.

- Many of the more significant improvements in the New York system over the past few years have been in the area of case mix. This was prompted first by a large backlog of case mix appeals in their rate setting system. These improvements were later incorporated into the New York program to more accurately compare costs among hospitals.

- By 1982 most of New York's case mix developmental work had been completed and New York had incorporated into its per diem payment system nearly every cost control feature associated with a diagnosis specific case payment system.

- The current New York system which Medicare agreed to join in 1983 uses 1981 as a base year for each hospital which will be fixed for 3 years.

- Routine cost per day for each hospital is compared to a routine cost per day limit for similar hospitals after adjusting for case mix and standard length of stays. The hospital has the lower amount approved as its base.

- Ancillary cost per admission for each hospital is compared to ancillary cost per admission for similar hospitals after adjusting for case mix. Again, the hospital has approved the lower amount as its ancillary base which is then converted to a per diem.

- The hospital's total base cost per day is then projected to the prospective year based on a trend or inflation factor and adjustments are made for volume.

- Several observations are in order:

  - New York has resisted a per admission payment unit and prefers to adjust for all other factors through a series of penalties.

  - The results of the system speak for themselves. Clearly, New York has the best record for holding cost down and that was attained by controlling only 50 percent of revenues.

  - However, even with all the case mix adjustments now incorporated in the system, the New York program retains the perception as a per diem system. As a result all of the up front incentives attributed to a diagnoses specific payment system are not usually attributed to the New York program. The hidden case mix features of the system do not seem to encourage major change but instead give the appearance of just another penalty scheme.

  - However, there is little risk to the State in this system. Averages are not paid, only the lower of cost or limit is projected forward and paid.

Research Efforts

- The last development I would like to note are those carried out directly by HCFA's Office of Research. Over the past few years an enormous effort has been carried out by several key individuals on our research staff to develop and test a DRG based Medicare case mix index. Years of work went into this effort particularly to test the stability of the index across groups of hospitals, the power of the index in explaining hospital costs, the selection of techniques for developing weights for each DRG, adjusting for wage factors, adjusting for teaching factors and various other tests that are extremely important to support the use of such a mechanism on a national scale.

TEFRA

- By 1981 we had all the studies completed to justify the use of an index in the Medicare system and to develop a total cost per case limit system for Medicare. The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) gave us that opportunity to apply such a limit.

- In establishing the limits, each hospital's cost was adjusted using the case mix index based on DRGs. The provisions also established target rates which limit the amount by which a hospital's reimbursement can be increased each year.

- The changes in TEFRA were only interim improvements, however. They did not alter the fundamental nature of cost based reimbursment -nor did it eliminate the incentives which reward increased spending by hospitals.

Prospective Payment Directive

TEFRA also required that a proposal be developed for a Medicare hospital prospective payment system. The time had come to review all our demonstration and research experience and to decide what was the best course of action for Medicare.

Policy Objectives

Our policymakers gave clear direction as to the objectives they would want to be met by a Medicare system. Those objectives included the following:

- Easy to understand and simple to administer.

- Capable of being implemented in the near future.

- Predictable in terms of government outlays and predictable for hospitals in terms of their Medicare revenues.

- Establish the Federal Government as a prudent buyer of services.

- Provide incentives for hospital management flexibility, innovation, planning, control, and efficient use of hospital resources and

- Reduce the cost reporting burden on hospitals.

Prospective Payment System

Given all the activities we had witnessed over the years, the choices to our demonstration staff were reasonably clear.

- The budget review systems were simply out of the question. They didn't provide sufficient management flexibility to hospitals and certainly would not be simple to administer.

- The Massachusetts, Maryland and Rochester type projects were certainly possible but not realistic. Not only would it be difficult to get these types of programs in operation quickly across the country but they certainly would not establish the government as a prudent buyer since they accept the status quo or at very best demand equal productivity improvements.

- This left us with two approaches: a per admission system patterned somewhat like New York's program or a DRG specific payment system similar to New Jersey's system.

- When you begin to compare the features of our total cost limit system in TEFRA to both these approaches, it becomes very clear that there are really no technical barriers to either type being developed directly from the knowledge base that we had.

- We did have some significant features that we knew we wanted to address differently:

  - First, we did not want to group hospitals because it would require a significant amount of data and it would be very difficult to convince hospitals that they were similar to a group of hospitals scattered across the country. In addition, the TEFRA limit scheme could easily be modified to have the same effect as a group penalty limit.

  - Also, we wanted to use the standard case mix weights as developed for TEFRA regardless of the system chosen. We believed that it was important that the relationship between DRG payments in all hospitals be the same.

  - Rates would be set on a fixed base as in our most recent Medicare demonstrations.

  - For both types of systems we looked at the data requirements to finalize payments. Certainly, we could set a per admission rate but we were convinced that it would not be appropriate if we didn't adjust for the actual mix of patients in the prospective years. On the other hand, if we had to adjust for the actual mix we would need to collect all the case mix data for every hospital in the nation at year end and it would be at least a year before we could finalize payments.

  - We also knew that the incentives were much stronger and direct in the diagnosis specific case payment system. We certainly had found a totally different reaction to New Jersey's program than to New York's.

  - The risk to the government was higher in the DRG payment system than the per admission system, but also to the hospitals. The DRG system paid average cost and would not depend on a hospital's own cost. A per admission system would pay the lower of a hospital's actual cost projected forward or an average DRG adjusted cost limit.

  - The risk issue was back to the same concern detected in our first demonstration. Prospective payment was supposed to mean rates set ahead of time with no retroactive adjustments. The DRG payment system gave us the opportunity to bring that simple basic concept back into a prospective payment system.

THE NEW MEDICARE PROSPECTIVE PAYMENT SYSTEM

- On October 1, 1983, Medicare began to implement their new hospital prospective payment system authorized by the Social Security Amendments of 1983. Hospitals will no longer be reimbursed by Medicare for their actual expenditures. Instead, hospital payment levels will be set in advance according to a nationwide schedule of rates for Medicare patients. The new system being implemented over a 3 year period includes the following features:

  - Hospitals will be paid on the basis of output. Medicare will establish separate urban and rural national price schedules for each type of patient based on the DRG patient classification system.

  - Payments under the prospective payment system will recognize existing differences in area wage costs, but all hospitals in an area will receive the same payment for the same service.

  - During the 3 year transition period each hospital will be paid a blended rate developed from three prospectively determined rates which are projected forward based on each hospital's own costs, regional average costs, and national average costs for each DRG. The specific weight given to each component is according to the following table:

Year	Hospital Specific Rate	Regional Rate	National Rate
1	75%	25%	---
2	50%	37.5%	12.5%
3	25%	37.5%	37.5%

In the fourth year rates would be based solely on the urban or rural national rate, although Congress did require a study by the end of 1985 on the feasibility and impact of eliminating or phasing-out the separate urban and rural rates.

- Payment rates will cover all operating costs. Initially, capital and medical education costs would not be included in the prospective rate, but would be paid separately. However, Medicare was required by Congress to study and report on how capital-related costs could be incorporated in the prospective payment system and they specifically legislated that any capital costs obligated after the passage of the new law may be paid according to a different method.

- Teaching institutions will receive a special adjustment to recognize individual hospital differences in indirect costs due to approved teaching activities. The adjustment is based on the ratio of interns and residents per bed.
- Special provisions will be made for outlier cases with extraordinary lengths of stay or cost outlays. The outliers would be defined so that total payments for these cases would be between 5 and 6 percent of total payments.

CONCLUSION

- The impact of the change while anticipated is still startling.
- For the first time since the inception of the Medicare program, hospitals will be at risk for the cost of the care they provide to Medicare patients.
- With DRG payment rates, Medicare has firmly asserted itself as a prudent buyer.
- Onces these rates are set, the system is clear and simple to understand.
- Hospitals can easily predict their Medicare revenues.
- The rates can simply be moved forward until the necessity comes to recalibrate or rebase the rates.
- The system dramatically alters the incentive structures that have existed in hospitals since the beginning of the Medicare program, and
- The incentives created by the system are direct, powerful, and positive.

In conclusion, we believe that prospective payment is a necessary step in our effort to establish appropriate economic incentives in the Medicare program and to establish the Federal Government as a prudent buyer of services.

We have come a long way over the last 2 decades and now are entering a most challenging era both for the Medicare program and hospitals across the nation.

THE REIMBURSEMENT REVOLUTION: A NEW AGENDA

Carolyne K. Davis, Ph.D.

A critical period in the annals of American health care has begun.

We are launched on a reimbursement revolution and prospective payment for Medicare inpatients is but the opening phase.

The Administration is really pursuing three approaches to reform, all of which stress the underlying theme of competition.

They are:

- Consumer incentives to curtail needless utilization;
- Encouraging less costly alternative delivery systems;
- And payment incentives for providers to be more efficient.

Prospective payment typifies this latter approach and it is by far the most far-reaching change in Medicare since its inception.

Prospective payment will change profoundly -- and for the better -- the way hospitals do business.

This new system will promote hospital efficiency in a simple but effective way: hospitals can keep any surplus their efficiency earns them, but they must likewise absorb any losses from inefficiency.

It is a self-imposed discipline that does not require layers of government cost control regulations and burdensome reporting requirements.

Prospective payment will also affect the way physicians manage patient care. Heretofore, a hospital's administrative concerns and the physicians' management of patient care have operated on essentially two different tracks.

Now these must merge into one comprehensive system of management.

We are moving away from an era in which resources were used freely and we have entered an era of limits.

Wisely managed, this era of limits can be a boon. It can teach us what we have never truly had to learn before -- how to use the resources of our health care system to their maximum effect, thus ensuring continued access to good care for more Americans.

This is the new management agenda for hospitals and it will be a challenge of the first order.

We must plan now to meet this challenge, and that is what I am here to discuss with you today.

As each hospital approaches its fiscal year inauguration into this new system, the one clear and immediate task commanding its attention is to become thoroughly familiar with the regulations that implement prospective payment.

Indeed, this is one of the purposes of this Conference that our agency is cosponsoring with the New Jersey State Health Department.

After leaving this conference, if you are not completely clear on any regulatory nuance, pick up a phone and call us on our hotline.

Here it is: Area Code 301-597-5128.

THE NEAR TERM AGENDA

Now let's move on to the intermediate agenda.

High on your intermediate agenda should be to give a strong role to your hospital's medical review system. In addition to its traditional concern with quality care, this system now needs to focus on better use of your hospital's resources.

For only by providing care at less than the DRG rate can your hospital expect to earn revenue from Medicare.

An internal peer review system that is responsive to the imperatives of prospective payment needs to look into a number of concerns:

- One of its goals should be to suggest ways of minimizing patients' length of stays. This can be done through such devices as pre-admission tests and more effective discharge planning;
- Another of its activities might be reviewing the services provided to Medicare patients to ensure that they are both appropriate and necessary;
- Post-procedure complications can delay discharge and a good medical review system should also be looking into ways of preventing or ameliorating them;

You will also need to turn your attention to other cost-containment measures, a few of which I will only mention:

- One, the establishment of more effective inventory control;
- Two, better management of your labor costs;
- Three, a system to identify which of your hospital's procedures are cost effective and which are not;
- Four, a better process for deciding what new equipment to purchase. Under cost-based reimbursement, these matters were decided largely by what physicians wanted. Prospective payment will demand that you view each buying decision in terms of the equipment's cost-effectiveness to the hospital.

Hospitals will need to analyze their equipment purchase requests for the impact they will have on improving the efficiency and productivity of the hospital.

Hospital managers may wish to consider such questions as:

- What will be the equipment's usefulness to the hospital and will it assist in lowering unit production costs?
- For which DRGs will it be used and by which departments can equipment be acquired through volume purchase arrangements?

BETTER RECORDS

All that you do can succeed only if you have the facts and figures at hand for making informed judgements.

This suggests another important item on your intermediate agenda -- a thorough overhaul of your records-keeping and cost accounting systems.

Without an effective cost accounting system, you cannot hope to know how much it is costing your hospital to provide services under each Diagnosis Related Group.

This information is crucial for initiating measures that will bring down your clinical costs.

Fortunately, DRGs lend themselves to computerizing records --in fact, they all but demand that you do this.

This, together with the universal records forms now in use, offers you an unparalleled opportunity to modernize your records-keeping machinery and analytical resources.

Seize that opportunity and begin now, if you haven't already to get these functions up to speed. Lacking that capability, you will be managing your hospital's destiny blindfolded in the critical years ahead.

And one final bit of advice if I may: resist stoutly the temptation to game the DRG system. Cost-based reimbursement invited gaming -- that was one of its shortcomings. Prospective payment is far less prone to that.

We have set up a very good monitoring and tracking system to detect gamesmanship, together with sanctions for those who overstep the parameters we have established.

Professional Review Organizations will review the validity of diagnoses and look into the quality of care provided, together with the appropriateness of admissions and discharges and the handling of outlier cases.

Our intermediaries will work closely with PROs. For example, we are extending our existing system of admission pattern monitoring to the prospective payment system.

This monitoring will apply to cases involving selected invasive diagnostic procedures such as pacemakers or coronary artery bypass surgery. It will also look at cases involving transfers to exempted hospitals and exempted hospital units. Finally, it will look at cases in which a readmission occurs within seven days of a patient's discharge.

Also subject to medical review are procedures affecting DRG classification and reimbursement, or those that pose quality of care questions.

Two kinds of outlier cases will come under review:

- day outliers, cases where the number of covered days in a hospital stay exceeds the average length of stay by a fixed level;
- and cost outliers, cases where charges exceed a fixed multiple of the DRG or another fixed dollar amount, whichever is greater.

All outliers will be reviewed by the medical review agent to see if each was medically necessary and appropriate. If not, payment will be denied.

We will also institute a system to ensure that the DRGs hospitals report are accurate and not creeping into higher classifications.

If errors are found, the fiscal intermediary will make the necessary payment adjustments. If a pattern of abuse is found, intensified review of that hospital will be required.

As we gain experience with prospective payment, our instructions to medical reviewers will be revised and updated.

BETTER EDUCATION

Another item on the intermediate agenda is also vital to the accomplishment of all that you hope to achieve: the re-education of your hospital's personnel. Your education program should be of two kinds: Retraining for new kinds of job responsibilities and the changing of attitudes.

Re-education should include everyone involved -- from members of the board of trustees to the housekeeping force.

Several business coalitions have been sponsoring seminars for executives who serve as hospital trustees, the object being to make them more cost conscious. These seminars are a good idea and I expect we will see more of them. Board members need to know the fundamental workings of a fixed payment system and what their hospital must do to live within its means. They will also need to become more involved with the internal planning of the hospital and with determining the hospital's overall service mission within the community.

The medical staff is another key group for your educational efforts because physicians' decisions account for most clinical costs.

A principal objective here should be to get physicians to pay closer attention to the dollar consequences of their practice patterns.

To achieve this, you will need to have in place two elements: a good clinical cost reporting system and a fully functioning peer review system.

With these elements, in-house physician committees will be able to examine the cost profiles of each physician. Clinical cost audits show each physician how their typical treatment plans compare in cost with that of their colleagues.

Where this approach has been tried, it has achieved good results: George Washington's medical clinic tried it and was able to drop overall lab charges 29 percent. In addition, the charges generated by their higher-cost physicians fell an astounding 52 percent.

From reports in the medical press there appears to be little physician resistance to approaches like this. The view is that physicians do not mind reviews that are conducted in a questing spirit rather than as finger-pointing exercises. Issues of cost versus quality need to be approached in a collegial atmosphere if you want real results.

Over time, I believe that education in cost-effective care should take on a more comparative character.

It would help greatly if hospitals knew how much other hospitals were spending on the more common DRGs.

Blount Memorial Hospital in Knoxville, Tennessee, is already doing this and has come up with some eye-opening findings. It compared its length of stay for cholecystectomies against 800 other hospitals around the Country. It discovered that it is keeping these patients 8 percent longer than other hospitals in the South and 34 percent longer than those in the West.

This comparative study picked up some interesting insights along the way:

- the length of stay for this procedure ranged from 6.5 days for the low surgeon to 10.3 days for the high surgeon;
- Also, patients stayed almost three times longer before having this surgery if they were admitted by a non-surgeon and their total charges averaged 47 percent higher than patients admitted by surgeons.

These findings have suggested that one way to cut costs is by doing pre-op workups on these patients on an outpatient basis.

The Blount Memorial medical staff has also decided to conduct comparative reviews in three other common and fairly homogeneous procedures -- acute myocardial infarctions, T & A's, and normal childbirth delivery.

Comparative studies have a potential payoff in another way because of strong evidence that some hospitalizations are of questionable necessity. Studies, for example, show a wide variance in the rate of hospital admissions, even within the same area --ranging from a low of 109 per 1,000 population to a high of more than twice that, 238.

Since the number of people being admitted to hospitals has a direct and major impact on capital costs, hospitals need to begin concerning themselves about this.

This is all the more important because our agency has a mandate from Congress to study the feasibility of folding capital costs into the prospective payment system. If that should happen, the time for hospitals to begin taking steps to minimize their capital costs is not next year or the year after -- it is now. A comparative study of your hospital's utilization rate now could lead to insights that may one day save you countless dollars.

Still another important target group for your educational efforts is the nursing staff. Under a cost-based reimbursement system, the nursing service has been implicitly regarded as an expense. Under prospective payment, nurses should be regarded for what they have really been all along -- potential revenue enhancers for the hospital.

Research shows that good nursing care promotes uncomplicated recoveries and prompt discharges. So a hospital has much to gain by providing continuing education for staff nurses in such areas as patient assessment skills, time management, the care and cost of equipment and the clinical use and costs of various lab services.

For nurses in management positions, education in financial management, health economics and working with computers are three knowledge areas that have cost-containment value for the hospital.

QUALITY OF CARE

The impact of prospective payment on the quality of care has been a continuing concern of our agency from the very outset.

It was an uppermost concern over a decade ago when Congress first authorized state demonstration programs to test prospective payment.

As part of a major evaluation of these demonstrations, we commissioned a major evaluation of the quality of care. This evaluation spanned six years and included some 670,000 Medicare patients in 2,700 hospitals.

It examined many aspects of quality care: mortality and morbidity rates, readmission rates, JCAH accreditation, nurse-to-bed staffing ratios and other indicators.

This evaluation showed no adverse impact on the quality of care in these prospective payment demonstrations.

More recently, a panel of physicians reviewed New Jersey's admission and discharge data under prospective payment. It has been their unanimous finding that there has been no reduction in the quality of care.

We believe that quality of care will improve under prospective payment because it offers hospitals a strong incentive to specialize in the procedures each does best. Increased specialization means more volume, more productivity and lower unit costs. It also means increased clinical proficiency of the medical team involved.

These medical teams become adept at spotting any aberrations in a patients' recovery pattern, allowing them to intervene early to prevent major complications

FINE TUNING THE SYSTEM

With that, I conclude my review of the intermediate agenda for hospitals facing prospective payment.

But before I turn to long-range considerations, I want to briefly report to you what our Agency is currently doing to fine-tune the DRG system.

Just a few days ago, an informal working group consisting of hospital representatives and our agency staff began an effort to correct deficiencies in the wage index that is used to help compute hospitals' payment rates.

By sometime in late Spring, we expect to improve this index so that it will more accurately reflect hospitals' wage costs.

Obviously, we have some more adjusting to do as experience with DRGs grows.

But we want to minimize the time it takes to learn about a problem and correct it.

Accordingly, I have directed that several monitoring mechanisms be set up in our Agency that will spot emerging problems.

We have a prospective payment monitoring group directed by my principal Deputy Dan Bourque. It is meeting regularly to consider the need for any near-term adjustments and improvements. Among its responsibilities will be ensuring that prospective payment remains budget neutral in impact over the next few years.

This group will also consider ways of improving our reporting capabilities in the near term.

LONG TERM ISSUES

Let us turn now to a few of the longer term issues on the planning agenda:

As you know, Congress has mandated a host of studies in the years ahead and they take in a lot of territory:

- A report on how capital costs are to be handled is due next October;
- Early in 1985 we will have a report on the feasibility of an all-payors system;

- Several more reports are due by April 1985: One will explore ways of sharing cost information with beneficiaries. Another will deal with whether hospitals that are sole community providers should come under prospective payment, and if so, how. Still another study will explore the extent to which hospital services go uncompensated.

- By the end of 1985, still more reports fall due: They will assess the impact of prospective payment, recommendations for modifying rates, coverage of exempt hospitals and the feasibility of including inpatient physician services into the prospective payment system. I might just add that we are already engaged in exploratory work to examine physician reimbursement in its broadest terms.

The breadth of these studies strongly suggests that the prospective payment principle may well take on expanding dimensions in years to come.

- Recommendations of our agency on how to apply the principle to skilled nursing facilities are due to Congress by year's end;

- Meanwhile we are inviting prosposals to study applications of the prospective payment concept to home health agencies;

- At the same time, Senator Durenberger has been talking about the development of a single DRG system, leading eventually to the establishment of a voucher system;

- Some State Medicaid programs are meanwhile interested in developing a DRG-based prospective payment system and we have an agency task force to give technical advice;

- Finally, private sector interest in prospective payment is growing. One employer consortium is considering whether to adopt DRGs in their negotiations with hospitals, while Blue Cross plans in Kansas and Oklahoma are developing their own version of a DRG prospective payment plan.

Medicare's DRGs may also make it easier for employers to negotiate lower prices for their employees' health care. The DRG requirement that hospitals merge their medical and billing data will prompt private plans to require the same. This data merge would allow employers to contract at a modest cost with PROs to develop comparative data on providers' cost-effectiveness.

VERTICAL INTEGRATION

The final long-term issue before us is how the health care industry will respond in organizational terms to this new era before us.

Many believe that it will respond by vertically integrating the industry, and indeed signs of this are already visible.

Already, some hospitals are branching out to provide care in other settings: outpatient surgery, home health care, long-term care, and satellite diagnostic centers and clinics.

The advantage of this arrangement is that a hoispital will not 'lose' a patient it discharges or does not admit. Instead, another unit of care that it manages will take over and provide less expensive, more appropriate care.

CONCLUSION

I have tried to sketch out in specific terms the new agenda before us.

It is indeed a full agenda, and many issues remain to be resolved.

To suggest answers to these issues now would be foolhardy. For as the Good Book says, we see the future "through a glass, darkly".

What is clear now, however, is that we must face the uncertanties and challenges of the reimbursement revolution with a new sense of common purpose.

For if one lesson emerges out of our past experience it is this: we have at last met the enemy of cost-effective care --and it is everyone. To be cost effective and yet deliver quality care we must all alter our pattern of behavior.

This Conference can help launch us on that path. To that end, let us use it well and productively.

General Session 2

IMPACT OF DRGs ON NEW JERSEY HOSPITALS

Dorothy K. Powers, New Jersey Hospital Rate Setting Commission

I am pleased to be here today to moderate a discussion that I believe is the very cornerstone of this conference: that is, the impact of our DRG-based reimbursement system on the performance of New Jersey hospitals.

From my vantage point as Chairman of the Rate Setting Commission, I have no question that the system has been a success. We have observed and demonstrated that a properly balanced reimbursement system, with appropriate and adequate incentives, can produce changes that are necessary, beneficial, and significant. It is also clear that the system has produced results consistent with our legislative mandate.

Specifically:

- As a result of the DRG system, hospitals in New Jersey now operate more efficiently and effectively than they did under previous reimbursement programs. In my opinion, this is a direct result of incentives inherent to the system, and also, of the use of extensive and sophisticated hospital-specific management reports that heretofore did not exist. Most importantly, cost containment objectives are being reached through greater efficiency and reduced length of stay.

- Efficient hospitals have been assured of their financial solvency. The DRG system takes into account hospital financial needs that have been funded inadequately, or not at all, in the past. In addition, no one can question the impact, in both financial and human terms, that payment for uncompensated care has had on New Jersey's hospitals and residents. Inner city institutions, in particular, have benefited from this program element; indeed, some are now faring quite successfully in today's competitive environment.

- Equity now exists among payors. The phenomenon of cost-shifting, often quite troublesome and unfair for hospitals and payors in other states, is no longer an issue in New Jersey. Rather, we are working on fine-tuning the system in order to reward payors for practices beneficial to the system as a whole.

- Quality care has been maintained. Early fears that system incentives would have a negative impact on patient care have proved to be unfounded. As physicians, other providers and patients have come to understand the system better, they have given it their best efforts and support.

Looking at New Jersey's hospital system overall, we are witnessing a changing environment and set of dynamics. For example, many institutions are reorganizing their corporate structure.

There is increased discussion and activity regarding mergers, consolidations, and multi-hospital arrangements. As well, institutions are considering both the development of new services, and the innovative delivery of services that already exist.

All of these activities, and more, are the direct or indirect result of the DRG system. I believe that our cost containment efforts are having a dramatic and positive impact on hospitals, payors, physicians and consumers.

Now that you have heard a general description of the Commission's perspective and evaluation, let's move on to discuss the specific impact of this program on New Jersey hospitals. To do so, we have gathered a group of distinguished individuals, all of whom have considerable knowledge and experience in implementing the DRG system at their respective institutions.

IMPACT OF DRG

Joseph Lindner, Jr., M.D., Saint Barnabas Medical Center

I want to give you an overview of the impact of DRG. My colleagues will be giving you specific examples during their presentation.

Lay literature, business coalitions, state and national legislators and patients have been increasingly critical of all of us in health care. We in the health care field are being treated with growing mistrust. Now that DRG is here it can be a platform for regaining respectability and trust if we respond to the opportunities it offers. The opportunity list is headed by information. In New Jersey, DRG has generated a great amount of information and will continue to generate data to show how well the health system has been governed and managed, how health services have been delivered and how precious resources have been used. That new information will be available to all segments of society. It will not be privileged information for boards of trustees, managers and physicians. Because this information will highlight what should or should not have been done, mistrust may well increase. However, there is a bright side. This information can also be a valuable tool to rebuild respectability and regain trust. The new information will show us what must be done. By being objective about what responses are expected of us, DRG will have a positive impact and we will avoid having others intrude further into the governance and management of our facilities and practice patterns of direct deliverers. We should participate actively in redefining what is acceptable. We should not make the assumption that to continue in the same old way or go back to the good old days that the past high level of confidence by the American public will continue. It would be a false assumption and could well lead to the demise of the influence providers have had in monitoring the quality of care and the way it is delivered.

DRG is an outgrowth of a desire to change the system. That desire has been fulfilled. I want to share with you the impact DRG is having on tomorrow's governance, management, direct providers and patients.

DRG impact on governing boards has been profound. Several decades ago, the courts firmly sequestered patient care supervision and responsibility at the board level with their decision on the Darling Case. In 1983, Health and Human Services mandated DRG and firmly sequestered financial and service responsibility at the board level with the decision to institute price per case. Boards are asking, "Are we doing the right things?" vs. "Are we doing the wrong things right?" They are getting better information on which to base their policy decisions. They know that the hospital given to them in trust could fail because resources are finite and the credit card is no longer available.

DRG impact on future governance will be as follows: in the rebuilding of our aged health care delivery system, vacancies on boards of trustees will be filled by individuals who can be the scaffolding around the construction of a sound revitalized delivery system for the community and region. Board members will be selected on the basis of wisdom, skill and experience because a wide spectrum of knowledge is required in this business called health.

Future trustees will be able to bring to existing boards such new dimensions as willingness to talk to trustees at neighboring hospitals to explore community need and act for community benefit. They will convert some of the competitive dollars into quality care. Each board should fill vacancies with individuals possessing expertise, wisdom and vitality to handle the rigors of a changing delivery system. A new trustee should be able to pick up the telephone and make a difference. A new trustee should come from the youth of all ages. Thanks to the DRG data base, boards of trustees can act on meaningful data, respect their role and generate respect for the jobs we all undertake in delivering personalized care with appropriate consumption of resources.

In the past, trustees said, "If my business were run like this hospital, it would fail." In the future, there will be trustees in hospitals saying, "I am going to send some of my people over to this hospital to find out how to run a business." The trustee who says that will also know that the patients do not feel the hospital is just a business.

And now management. More than any other group, it is managers who have the most direct access to this new information stream about their hospitals and the industry. They must use it and share it. It is management's responsibility to bring this new information to the boards --- no matter how negative the news and how painful it might be to report --- in order that they can make informed policy decisions on which services and educational programs may no longer be relevant. Hospital managers have a duty to use DRG to make their trustees experts in the health field --- for trustees are the final authority and policy makers of our health delivery system on how and by whom resources are consumed. Their decisions on these issues must be informed decisions. Management, as well as others, are painfully aware of the recent Harris Polls registering widespread dissatisfaction with the health care today and the feeling that the industry sorely needs restructuring. The data-driven DRG system is verifying the statement, "Health care is in disarray and it costs too much."

First and foremost, managers must recognize that we are in a service industry. Our business is health care. We must deliver personalized care and caring to retain established patients and attract the new prudent purchasers of our services. Managers must remind every member of the health care team to do piece work, not assembly line work, while they study batched data. They must deliver timely, accurate, valid data to all members of the health care system. DRG will move managers away from building buildings to building systems --- data systems, planning and financial forecasting systems and finally health delivery systems. We will respond to that data when received because new data will be only weeks away instead of being available at a year-end reconciliation. Joining hospitals together to purchase tongue blades, tetracycline and tomato soup is not enough. We will no longer be all things to all people in every institution. We will talk with neighboring hospitals about what services should be in which hospital. Only in this way can hospitals maximize fixed cost spread and minimize variable cost build up. We may have to close a service. As well as assuring availability and accessibility, each hospital must have adaptability and look at the construction of its physical plant for convenience, operation and safety for both patient and worker --- not for our own ego satisfaction. This is but one more step in good management for the hospital that does not want to be among those that close because patients do not want to enter them or because physicians do not choose to admit to them. We must look at the convenience, color and texture of the container in which patients live, workers spend eight or more hours a day and visitors pass through. A good physical plant means better comfort, greater employee productivity and a welcoming environment for the entire community.

We must be fiscally sound. Fiscal integrity is our state of health. If it is sound, we will have a sense of tranquility. It is our psychic well being. It will go a long way to assure self respect. It protects us when there are stormy times. It lubricates the technology. It pays the bills. Poor financial management can close a hospital even though there is a good board and quality doctors and nurses. Prospective payment will not allow managers to make the mistake of trying to do too much. DRG will take a hospital´s temperature and pulse. Bankers, bond holders, insurance carriers, lawyers and contractors will have equal access to that DRG temperature and pulse. Through DRG price comparison, they will compare not only the current year´s operation to last year´s operation in one hospital, but to every other hospitals´ operation. There will be few secrets.

Further more, managers must use DRG information to educate rate setters. Rate setters are new to this game, too. They do not have all the answers. There are still glitches in the DRG system. They need our experience in their computers. We should not allow them to lose sight of the human side of health care as they watchguard the numbers to assure cost constraint. In the past, managers and others used quality, service, empathy and compassion to defend dollars for our community´s health. We are now in a position where we must learn to use dollars to defend quality, service, empathy and compassion for our community´s health.

Finally, but far from the bottom of the priority list, managers must form a partnership with physicians and others of the direct patient care team to protect the best of the system and protect the institution´s viability. A divided or adversarial board/management/physician condition could lead a hospital down a path of failure.

DRG data has been an eye-opener to many physicians. The majority are vitally interested in their hospital´s future just as are nurses, boards of trustees and other hospital workers. This interest will aid the gelling of the new partnership of all individuals working in the same environment to preserve institutional viability. DRG will offer cost center reports so physicians and nurses can have meaningful cost containment grand rounds to discuss length of stay, unnecessary test panel orders and discharging on time instead of one half to a full day later. DRG intensity indexing will allow nurses to assign themselves in equitable distribution to maximize their professional talents. DRG will develop true costs for nursing services so they will not be managers´ target for layoffs everytime there is concern over the bottom line. As DRG monitors consumption of resources by patient category and group, it may well bring in closer partnership the nurse and doctor to discuss the best way to manage their patients for efficient quality care. Each physician is accustomed to "peer review" and "usual and customary practice." When a physician compares his or her individual patient and total patient consumption with other physicians´ individual and total patient consumption by DRG grouping, there is going to be absolute "peer review", and "usual and customary practice" will become a daily educational experience. DRG will let the physician know exactly how many dollars in accounts receivable are sitting in the record

Prospective payment is going to change our delivery system even more. The resource pendulum may swing too far. In this country, it usually does. In addition to the impact on boards, management, direct deliverers and patients, it will focus on health education, technology rationing and high cost therapeutics before it swings the other way. We must be a healthy industry to adjust to the change while the pendulum goes through its cycle.

DRG has started us on our own wellness program. We are now asking, "Where are we and where are we going?" Do I hear the sounds of rustling yellow and frayed mission statements being exhumed for review with an eye to their relevance and appropriateness? DRG has placed the health care system in a position to take steps to regain its own health and thus regain the trust and respectability it should have.

room erroding the hospital bottom line because of failure to complete a chart in the specific time that is clearly listed in their by-laws. DRG will encourage the reluctant or reserved physician to discuss with their patients what services an acute care hospital can deliver and when those acute care services are being abused for nothing more than hotel convenience.

What about the patient in all of this? Because patients and employers are concerned about costs, patients are going to seek and receive more and better information about costs of care. Because DRG will be able to give the different dollar costs, patients will learn from their employer or their neighbor about costs by hospital and alternatives such as one day surgery and outpatient vs. inpatient testing. Patients will receive better quality because the dwindling available resources will not be squandered on low volume, high cost services in every hospital.

DRG PROSPECTIVE PAYMENT SYSTEM - IMPACTS, CONCERNS AND IMPLICATIONS

Alfred A. Alessi, Medical Society of New Jersey

What are the impacts, concerns and implications of a DRG Prospective Payment System developed and implemented in New Jersey and Nationally?

Our health care system is the best in the world. We can be proud of our health care people - physicians, nurses and hospitals. Patients come here from all over the world for complicated care; physicians come here to study. Our health care statistics are the best in the world. We must not allow our System to degenerate into mediocrity because of costs.

It has to be acknowledged that the cost of health care was 9.8% of the Gross National Product in 1981. Also, 72% of the costs of public programs is generated by hospital care. 41% of the cost of health care is borne by federal and state governments. Certainly, cost containment is important. The System has to become more efficient.

The problem is that so far there is no evidence that the DRG Program in New Jersey has saved any money, according to the Health, Research and Educational Trust, the research organization in New Jersey studying DRG. It is a fact that there have been significant national, state and individual hospital costs in starting the program and in continuing the program. It is stated that the yearly increment in cost of medical care since DRG is below the national average, but New Jersey has been below the national average since 1970. So we are dealing with an unproven program to reduce costs.

In 1982, 40% of the hospitals were losing money - 20% of the losses are being made up by private donations and other sources. It is inevitable that further losses in subsequent years will seriously affect the quality of medical care.

Major teaching institutions have concerns about the potential adverse impact of federal reimbursement policies on medical centers of learning. Repercussions are occurring throughout the medical teaching community. Harvard Medical School considered selling a psychiatric hospital to a profit corporation as a means to get quick and substantial money. Trustees of George Washington University Hospital have ordered a study of the possibility of selling or leasing the University Hospital to a profit chain. Certainly, it is a bad idea to turn our teaching hospitals over to a corporation for profit. It would result in negative impacts such as not accepting indigent patients and curbing new programs because of costs. Schools would lose their autonomy to decide education. It is my understanding that our own medical schools in New Jersey have concerns about the potential adverse impact of federal reimbursement policies on medical education.

What are some of the pressures generated by the System?

There is no economic incentive for a patient to leave the hospital as soon as possible. His bill will not be reduced accordingly. If a patient is encouraged to leave and a complication occurs, the Doctor bears the responsibility and is placed in an antagonistic role with the patient. To help the hospital financially, early discharge becomes important. Frequently, there is an inadequate home to care for the patient and long-term facilities are not available. This leads to a morally troubling situation of discharging someone really not able to care for himself.

The System encourages standard treatment criteria. If treatment is to be evaluated, guidelines are necessary. The problem is that the public does not want treatment according to standards. The public wants what their physician deems advisable for them. When illness strikes a family, patients want their doctor to use every resource he can on their behalf. Medical practice becomes homogenous because of costs.

Physicians are concerned about the use of DRG information systems in health planning, not just reimbursement. Cost averages of physicians and hospitals are being compared. (Which physician or hospital is more efficient or costly with a specific diagnosis.)

The System pits physician against physician and hospital against hospital purely from a cost consideration, disregarding quality of care. In the future, physician and hospital profiles may determine which services they can provide. Physicians may be admitted to a hospital according to whether they treat a cost effective diagnosis. The admission of patients not intensely ill is encouraged, as short stays make money for the hospital. The System encourages transfer of complicated cases to regional centers. This may result in these centers having serious financial problems.

Sufficient funds may not be available to accomodate changes in practice pattern which enhance the quality of care. Such changes occur rapidly today. There is danger that the lack of capital expenditure may result in obsolete facilities.

Physicians worry that as further difficulties due to the system become apparent, further governmental controls and regulations will result.

Based on the New Jersey experience, cost accounting becomes the Doctor's consultant on appropriate medical treatment. Therapy must not only be effective but also cost-effective.

It is inherent in such a System that patients and families are frequently left out of the decision making affecting their care. The hospital will argue that expected treatments and tests are unnecessary. Patients believe they are entitled to the best care money can buy, not realizing cost accounting may deprive them of that right.

With all the talk about the cost of medical care, the medical profession is the only patient advocate for for quality care. Remember, all of us - administrators, health officials, politicians - are all potential patients.

OPERATING WITHIN LIMITS

James Heimarck, Monmouth Medical Center

The DRG Program in New Jersey, as you know, emerged from a data collection mechanism which identified resource consumption relative to diagnoses in order that the health industry might engage in effective utilization of those resources. Hospitals, it was said, would have tools to determine those disease entities which it responded to cost effectively or ineffectively. The theme that has emerged with this system at the hospital I represent, is that the use of resources must be managed. There is no alternative for a hospital in an "all-payor" system to gain additional income through charge manipulation known as "cost shifting" which became the standard practice in the cost reimbursement system that our industry has known. New Jersey's DRG Reimbursement Program defines the annual revenue level and forces control of expenses within those prospectively determined rates.

In the brief time I am allowed to describe one hospital's experience with the DRG Program, I will present data that reflects the overall financial impact on our organization and overall organizational behavioral change; some specific examples of hardship the hospital experienced in implementing this program; and a few observations of the lessons learned from our experience.

Monmouth Medical Center

Monmouth Medical Center is a 510-bed community teaching hospital that participates as a member of the Mid-Atlantic Health Group, a holding company which also controls a forty-nine bed Chemical Dependency Treatment Center, a fundraising Foundation, and a for-profit corporation. This hospital is in an area defined as an urban, metropolitan area and has in its ninety-seven year history been the principal provider of indigent care in our county. A distinguishing characteristic of our organization has been its commitment to medical education; the house staff of 132 residents is the largest house staff in a community hospital in this state.

In its modern history, the hospital has prided itself on the introduction of new technology or new health service skills to the eastern central portion of New Jersey as it developed referral programs to enhance its medical education and service commitments.

General Indicators of DRG Impact

The financial implication of such commitment, as in so many similar institutions in this country, was that of rapidly escalating costs for staff and equipment upgrading. Exhibit 1 reflects the history of annual expense increases for New Jersey hospitals, for the United States hospitals, and for Monmouth Medical Center since 1970. Two outstanding patterns appear:

- The hospital industry in New Jersey which had been an innovator in attempting to control costs in the 1960's through self-imposed rate review mechanisms began to see a slowing in its expense increases in its hospitals in the early 1970's in contrast to the national pattern. And, since 1974, our state government's involvement in rate setting has further reduced the rate of expense increase compared to the national experience.

- Monmouth Medical Center had experienced continual increases in its expenses above the norm which would place it in a relatively high cost situation compared to other hospitals in the state by the end of the decade. Because the DRG system would force institutions to a median level of expense and our history suggested a relatively high cost position, it was apparent that change in behavior would be required to maintain fiscal integrity.

Furthermore, since 1980, Monmouth Medical Center has evidenced behavioral change in terms of severely reduced annual increases in expenses. As you can see, while the rest of the country was experiencing a very high inflation rate and annual hospital increases in expenses were reaching new highs, Monmouth Medical Center put a brake to its rate of spending which resulted in an increase in 1981 of 8.8%. In 1982, we tightened the reins further and were able to experience a 5.0% increase in our expenses, and in 1983 through ten months, we are at the same 5.0% level of expense increase over 1982.

There has been much discussion about the difference between the federal DRG application to Medicare and the all-payor system which applies in New Jersey. The next illustration (Exhibit 2) indicates the impact on an organization's charges in the New Jersey environment. As you can see, the hospital's net revenues for the past ten years have been on a virtual straight line increase. On the other hand, our gross charges (the higher line) evidences a widening gap between it and the net revenue level. This represents the exorbitant charges that were emerging in a reimbursement system that encouraged "cost shifting" to balance the organization's operating statement. In 1981, we entered the DRG program, but implementation of a new charge schedule was not possible until May 1. In other words, we operated on the traditional charge method for the first third of 1981 and on new (reduced) charges for the last two-thirds of 1981 so the chart reflects only a partial decline in charges for the year. However, in 1982 and in subsequent years, the charges will be more closely aligned with our revenue. I expect that hospitals will, in fact, see those parallel lines converge over the years.

Exhibit 3 indicates the experience at this Medical Center in our "admissions" and "patient day" patterns which confirms the impact of the DRG system on this organization. As you can see, admissions for this organization have been relatively level since 1980 although the patient days have been declining consistently by 2-3%. While this fulfills the intended purpose of shortened stays, there is a sense in our organization, though yet unproved quantitatively, that the intensification of care more than replaces the decreasing workload represented by reduced patient days of service.

Specific Difficulties in Implementation

In 1981, our first year under the DRG program, we encountered a number of difficulties in implementing the system. For instance, we did not receive the rate calculations from the state for fiscal year 1981 until March of that year and we could not install new charges until May 1. When we budgeted for 1981 (in the Fall of 1980) we knew that a ten percent increase per year from the 1979 base, would approximate an acceptable level of expense for the year. However, we did not know how that would stack up against other institutions in a comparison of our costs in the teaching hospital category. Similarly, our financial reports with new charges based on equalized, all-payor rates did not appear until the end of June so that our measurement of performance against the target essentially began after half the year had passed. We received enough information in March, however, to understand that we had disincentives, i.e., expenses exceeding our expected revenues, in a number of areas of the operation and that expense reductions would have to be imposed in that year and in the upcoming year. As we moved into the Fall of 1981, detailed analysis of departments with disincentives/incentives indicated that our expense increase in 1982 would have to be exceedingly limited. Furthermore, 1982 was to bring us two significant changes in the methodology of our rate calculation: The first was a change in the number of DRG categories from 383 to 467. This was not to have an immediate effect upon our operation except as it required a reordering of our data. The second factor proved to have a highly significant short-range impact upon our organization. It was the change in the number of hospitals in our teaching hospital category, and it proved to be the driving force for sharp reductions in some areas of our operation. How this could occur to our organization was at first perplexing and became clear only after considerable analysis of the problem. The situation unfolded like this: Those twenty-six hospitals that entered the DRG system in the first year (1980) had a 1978 base year. Those which entered in the second year (1981) operated with a 1979 base year; each of the two groups was maintained separately, but subdivided into teaching and non-teaching institutions. In our case, entering the system in 1981, there were only four hospitals in the teaching category in that particular year. Quite apparently, there was another hospital with a high cost history which was included in our group so that we jointly raised the median level of expenses in many categories to a point at which neither hospital was being severely injured. However, in 1982, all teaching hospitals were merged, not only those from 1980 and 1981, but also the new entrants in the system in 1982. Our comparative group of hospitals jumped from four in 1981 to nineteen in 1982; while two of the institutions in 1981 were high cost, they helped to raise the acceptable cost limits. In 1982, those same hospitals tended to be among the highest cost institutions in the state, but ranking in the top two or three hospitals among nineteen in certain cost categories was now falling sharply outside the acceptable corridor for reimbursement.

The next illustration (Exhibit 4) indicates what happened to my hospital in one particular category -- the Administrative and General (A&G) expenses -- as a result of the change in the teaching hospital category described above. Expenses for this category in 1979 were slightly over $4.5 million and a modest, certainly acceptable level of increase to 1980 of 7.5% brought it to $4.92 million; a smaller increase into 1981 of 5.3% brought it to $5.18 million for this category. If we had assumed that this level of expense, which in 1981 had been an acceptable cost within the DRG system limits, had increased by 6% per year, 1982 expenses of $5.5 million and 1983 expenses of $5.8 million would be reasonable and acceptable. Regrettably, we did not receive our 1982 rates until February of that year. Upon review by our financial staff, we discovered that the level of expense allowable to the A&G component would be $4.45 million, more than $1 million less than we had budgeted for the year, and we were now at March 1.

At this point, Monmouth Medical Center faced the following situation: In entering the 1982 fiscal year, we recognized that if expenses had continued at the 1981 level plus projected inflationary increases, we would finish the year with a $2.5 million operating deficit. We had, through the budget process, removed over $1 million of expenses and established lower levels of expense patterns for departments. These efforts still produced a $1.5 million budgeted loss for a hospital with an expense budget of approximately $60 million. It had been the stated intent of the organization to search for expense reductions during the course of the year and exercise whatever measures may be required in order to effect such a reduction in costs. Through January and February, the Executive Committee of the Board of Trustees met with Management every other week to review the effort to reduce costs to restore a balanced profit and loss statement by year-end, and a number of measures had already been instituted to provide such a position. However, with the news on March 1 that the A&G sector required another $1 million reduction, the immediate effect was devastating. What we thought was a $2.5 million problem for 1982, now exceeded $3.5 million and we had approximately three-quarters of the year left to effect necessary changes. We immediately set about, however, to address the problem and before the end of the month, had instituted a work force reduction in the Administrative and General component of thirty-four individuals, including 20% of our financial staff and other, highly visible senior administrative positions. Astounding as it may appear, we were able by year end to reduce expenses in the Administrative and General category to within $100,000 of our reimbursement level, at slightly over $4.5 million, and our expenses in 1983 indicate that we will operate this sector of our operation within the revenue provided at $4.69 million.

The specific situation that I have just described was among the most severe tests that we faced, but it represents ways in which the high cost institution had to address its expense behavior or continue annually to deplete its balance sheet to the point of bankruptcy. There is another example of the operating difficulties for our organization reflected by the next illustration (Exhibit 5). This displays the nature of equipment replacement in this environment. In New Jersey, major movable equipment depreciation expense is a part of the DRG reimbursement system and calculated on the base year equipment depreciation schedule. This is different than the federal system which allows equipment depreciation to be a pass-through item in the initial years. Monmouth Medical Center had completed in 1979-1980 a construction program of nearly $20 million replacing and expanding services with about 120,000 gross squre feet of additional space. Some areas of the building opened in the second half of 1979, but a few areas, including Radiology, did not come on-line until January, 1980. As a result, we did not have equipment related to these areas included in the base year depreciation expense schedule. The obvious difficulty, upon entering this reimbursement system, was that depreciation revenue based on 1979 levels, was not sufficient to cover major equipment purchases which added to our depreciation expense in 1980 and beyond. Hence, we see a separation of our depreciation expense line and the depreciation reimbursement line which begins in 1981 as we enter the DRG system and widens in 1982 and 1983. We will not see these lines converge again until a new base year is created for 1984 rates, using a 1982 base. The point, however, is that the difference between these divergent lines carries to the bottom line and we had to make up the annually increasing difference in this item by reducing other operating expenses in order to maintain a balanced bottom line.

Some Lessons From Experience

What are the lessons from this experience that I can share with you? The most important is the message I gave at the opening of this presentation -- that Management of the institution's expenses becomes critical. We can now approximate the numbers of admissions to the organization, the case mix which we expect to see, and project a revenue level within which we will have to operate. As a result, I have difficulty in the traditional process of holding the Chief Financial Officer (CFO) responsible for the bottom line. I no longer think it is acceptable to release the CFO if you have not had a good year. Maintaining financial viability is a line management responsibility for the Chief Executive or Chief Operating Officer. Many Administrators have hidden from the truth in the past and blamed the CFO for an outcome that is Management's responsibility.

A second lesson is that Management must respond promptly at reducing expenses in a department if they exceed the revenues or face not only the continuance of the problem, but a growth in the impact of that problem since the inflationary effect year after year continues to eat away other operating resources. Furthermore, it is important to attack the problem where it exists, if possible, as in my example of the A&G reimbursement issue at Monmouth Medical Center. In this case, we did not reach into Housekeeping, Food Service, Nursing, or any other category to reduce expenses in the organization. We reached directly into the area with the problem in order to solve the problem for the year in question, and for future years as well.

A third lesson is that just as our experience in that A&G component had resulted from a shift in the number of institutions participating in the teaching hospital classification, hospitals entering the national DRG program may find that as they change from year-to-year in the ratio of institutional costs to regional costs, they may have to alter their expense behavior if among the high cost institutions historically. They need to begin at their earliest opportunity to attack the problem areas before endangering other operating units of the organization.

For Monmouth Medical Center, certain issues still remain, such as equitable treatment of medical education costs, and recognition of new technology costs. However, let me finish on one important piece of news which reflects on this past few minutes of presentation. Despite beginning 1982 with a $2.5 million potential loss which was augmented by over $1 million after the beginning of the year, active control of our expense increase allowed us to finish the year with an operating loss of approximately $100,000 which was viewed internally as an enormous accomplishment. An added footnote is that having stabilized in 1982, and continuing modest expense increases in 1983 appears to be rewarding us with a seven figure "profit" in 1983. We feel as if the worst days are over at adapting our expense patterns to this new system and that we might be able to operate with fewer crises as we move into the mid-80's.

PROSPECTIVE REIMBURSEMENT PROGRAM - A CEO'S PERSPECTIVE

David P. Hunter, Memorial Hospital of Burlington County

Memorial Hospital of Burlington County is entering its third year of participation in the New Jersey Prospective Reimbursement Program. We are optimistic about the future of prospective reimbursement as a rationalizing influence in health care costs. However, we are somewhat less optimistic about the successfulness or usefulness of the case mix methodology, or DRGs, as a method for affecting successful prospective reimbursement. It is our suspicion that the DRG methodology may be a more complicated way of achieving the same objectives of cost containment and cost control that could be achieved utilizing another methodology.

In addition, as we express our guarded optimism, having been said before here today and remembered, the New Jersey system is based on S-446 -- a law guaranteeing hospitals certain financial elements, and a rational Rate Setting Commission and review process. You must remember that New Jersey has been a regulated state for many years. The current Rate Setting Commission and the process used to set rates are not as capricious or as irrational as the former S.H.A.R.E. methodology. This is largely due to the fact that S.H.A.R.E. was controlled as an internal rate setting system within the Department of Health. The Rate Setting Commission currently in existence in New Jersey is external to the Department, bringing a new degree of objectivity to the rate setting process.

Lastly, New Jersey is an all payor system, thus giving the regulators the opportunity to more reasonably control payments to the health care system.

Going on from our guarded optimism, and based on the qualifications mentioned before, I will divide my presentation into four comments: 1) Important Issues and Indicators - The CEO Perspective; 2) Strategic Planning Implications for Institutions in New Jersey; 3) Annual Operational Planning and Budgeting Implications, and; 4) The Medical Management of our Institutions Under DRGs.

1. Important Issues and Indicators - The CEO Perspective

Important issues and indicators we seem to be dealing with lead us to the conclusion that DRGs really make us do what we should have been doing historically. Those things include: the control of expenses; increase of admissions; decrease of the length of stay; increase of intensity, where possible, and, a decrease in the use of ancillaries. These are the more important, real issues to us in the DRG system and not our specific performance on any given single DRG.

The statistics representing the issues described above are those which I concern myself with when assessing Memorial Hospital's performance. It is easy to fall into the trap of gauging winners and losers in the DRG system. It is our feeling that the hospital that focuses on single DRGs, or groups of DRGs, in an attempt to improve performance by DRG may not be as successful as the one that affects an over-all attitude change.

First of all, it may be important not to eliminate some of the losers. It may be impossible to, in all cases, deliver a quality product in a DRG. Based on the approved rate it really is the average performance of the institution which is important. Rather than to focus on the individual DRG, we are focusing on attitude -- an attitude that deals with hospital board, management and physicians and relates primarily to working more with the given amount of resources we have. We really seek, as a major issue, to address an overall medical staff attitude change.

In the first generation of DRGs, we were able to effect a substantive two-day reduction in our average length of stay. We are currently working on a medical staff utilization review program dealing with the proper use of ancillaries as we deal with the second generation DRG impact. We believe that the attitudinal change in practicing physicians and clinical managers is the important element of success under prospective reimbursement with the DRG system, and not concentration on the DRGs themselves.

Another issue that is of great concern for us is that we clearly see the progressive effects related to DRGs. It was easy to be successful when our major goal was a reduction in the average length of stay during the first generation. It is becoming increasingly difficult to be successful when our major goal is a 10% to 30% reduction in ancillary utilization, depending upon the particular modality as we deal with the second generation. We are very concerned with what we perceive as the third generation of cost control. We basically see two options in the third generation. One option is to accept a more modest series of objectives relative to the qualitative performance in our hospitals, or to in some way ration care. The fact must be kept in mind that the DRG system is one which bases its rewards on doing less and is a system of rewards for removing unnecessary utilization from the health industry. Once that objective is accomplished, further reductions can only come from some general rationing of health care or a new definition of the acceptable level of quality in the health industry. Perhaps revision in the regulatory approach will avoid the more dire consequences of what we see in the third generation of DRGs. Hopefully the regulators will assist the industry in redefining acceptable quality and in adjusting public expectations.

2. Strategic Planning Implications

With respect to the strategic planning issues, we've found a considerable change in our attitude. First, and most important of these, is the adoption of a principle of vertical integration for our organization. We are now interested in the development of nursing homes and their alternatives as part of our system. We are interested in the development of nursing homes and their alternatives as part of our system. We are interested in the development of housing and housing options for the elderly. We are interested in the development and utilization of home care. Most importantly, we are interested in learning how to develop the potential for case management over the full vertically integrated spectrum of available care, reducing the amount of care delivered through the most expensive vehicle, while increasing the amount of care delivered through the least expensive vehicle wherever possible. A parenthetical comment is that one should expect that the cost of the least expensive modes of health care delivery will rise somewhat as we attempt to take care of sicker patients in those environs.

A second issue in the strategic planning arena is the affect on our attitude toward HMOs, market share and competition. In the face of a rapidly decreasing average length of stay, competition between hospitals, doctors and HMOs will increase dramatically. Some in our hospital believe that within the next decade an average length of stay of something less than five days will be reached. This represents a remarkable decrease and will increase, in effect, the capacity of the health care industry. As a result, hospitals, HMOs, and physicians will scramble to compete for the patients to fill that capacity. Consequently, from a strategic point of veiw, hospitals will do more with HMOs, perhaps more than ever to assure their adequate share of a given market.

An increasing symptom of both prospective reimbursement and the application of DRGs as a payment method for prospective reimbursement will be the unbundling of services in hospitals and the corporate reorganization of our health care industry. It is underway in a variety of settings now. As hospitals scramble to make the acute care unit as slim and inexpensive as possible, services formerly delivered in that setting will undoubtedly be accomplished via more unbundling and further corporate reorganizations and restructuring.

Finally, as a result of prospective reimbursement and the limitation of dollars flowing into this industry, hospitals and physicians will, more than ever in our view, join with one another in various joint ventures, particularly where it improves the hospitals' and physicians' competitive position and allows for the acquisition of scare technology unavailable to either physicians or hospitals through the traditional reimbursement methods.

3. Annual Operational Planning and Budgeting

I'd like to turn for a moment to my comments on operational planning and budgeting, an issue that really came home to Memorial Hospital this year. As the budget for 1984 unfolded, it was clear to us in the executive management that our hospitals could not operate under former budgetary strategies. We, therefore, established a new budget strategy for 1984 which has some different features than what we formerly used. First and foremost was a substantive budget reduction of well in excess of a million dollars. That reduction did include the elimination of some positions and the closing of some programs.

Secondly, we instructed our budget committee that new people were not to be added to departments which have a negative DRG effect, namely those ancillary services such as physical therapy, radiology, laboratory and pulmonary function, where we are seeking to control the utilization relative to DRGs and where the historic justification for additional people has been more procedures. We also instructed the budget committee to eliminate programs that were unrelated to the central purpose of the delivery of acute health care or to sharply curtail those programs. If those programs were eligible for potential unbundling to other corporations or other organizations in our service area, those objectives are also contained in our 1984 budget strategy.

Lastly, we developed a conscious strategy for medical education. It is our feeling that through continued re-enforcement in education we might be able to change physician behaviors to deal with the delivery of medical care in the hospital setting more efficiently.

4. Medical Management Under DRGs

My last comments have to do with an area in which there has been added expense, however we anticipate that the pay-offs will be great for us in the future. Most hospitals do not have competent and capable medical management components, i.e. salaried physicians, who are capable of dealing with the medical management of resources under a DRG system. We have established the Office of Vice President for Medical Affairs, with a job description and resources available to directly affect physician attitudes and behaviors relative to utilization of scarce resources. As I mentioned before, we established a vigorous program of attitude adjustment on the part of our attending physicians, encouraging them to be more rational and cost effective in their approach to the patient.

Lastly, we have begun to develop an ongoing program of ancillary utilization review. It is our view that a hospital without strong medical management, side-by-side with strong financial and lay management, will have great difficulty in surviving in the prospective world.

I conclude by saying that DRGs are really a system for measuring resource utilization and performance. Our experience certainly agrees with that position. As a tool for measuring resource utilization, we believe them to be useful indeed. Whether they in and of themselves represent the most efficient way of controlling the dollar flow into the industry, or whether they represent a somewhat expensive methodology for the achievement of an objective which could be accomplished by other means, remains to be seen.

The bottom line that the industry is facing has nothing to do with DRGs. It has to do with the fact that our state and, by and large the nation and business and industry, are taking the position, with some finality, that it is time to put a lid on medical care costs. The real issue is how do we deliver care with only slightly more dollars than we had last year -- or in some cases fewer dollars than we had in the prior period. It seems to me that whether we dispute those dollars by DRGs or some other method assumes little relevance.

EXHIBIT 1

ANNUAL OPERATING EXPENSE PERCENTAGE INCREASE

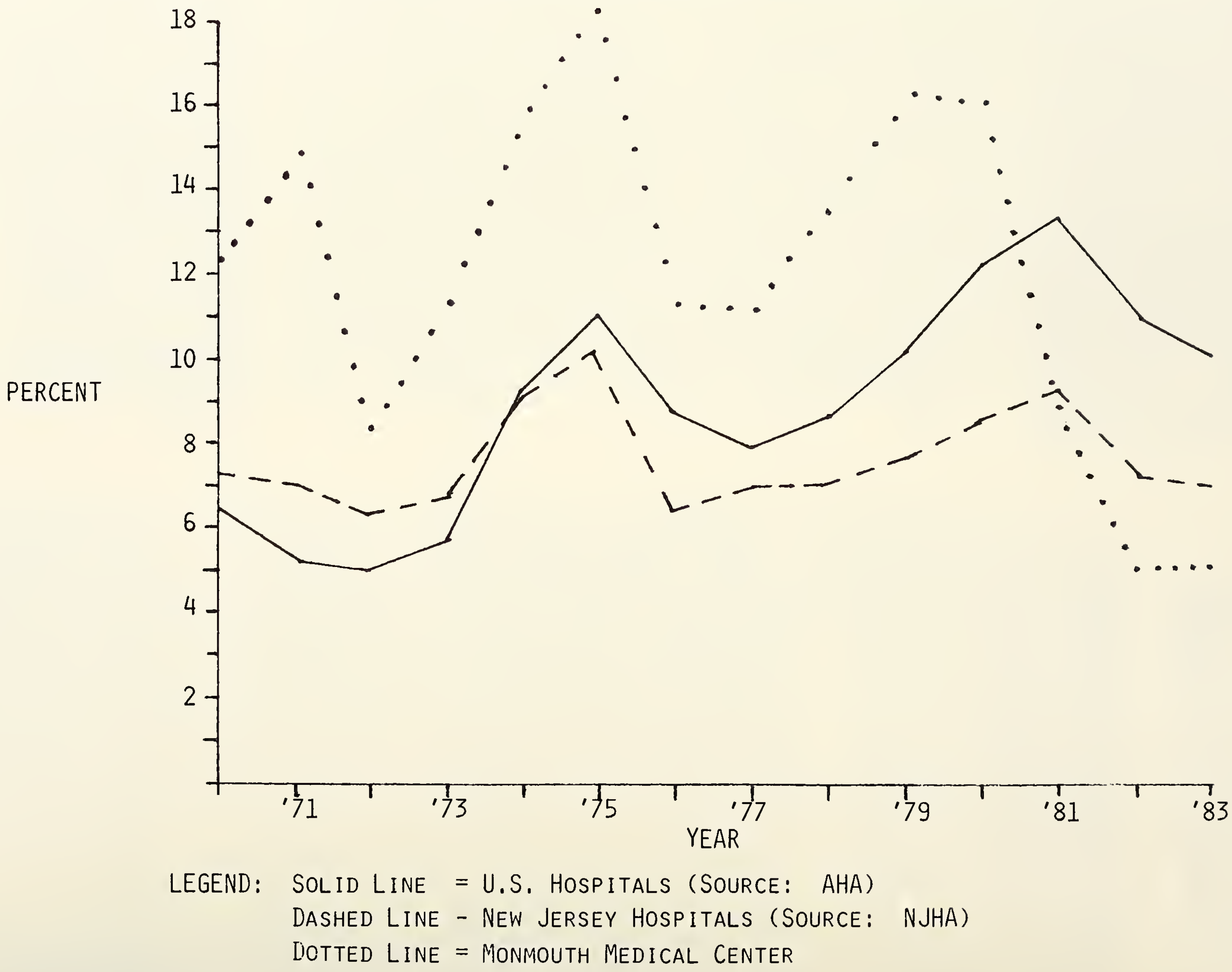


EXHIBIT 2

GROSS CHARGES AND NET PATIENT INCOME

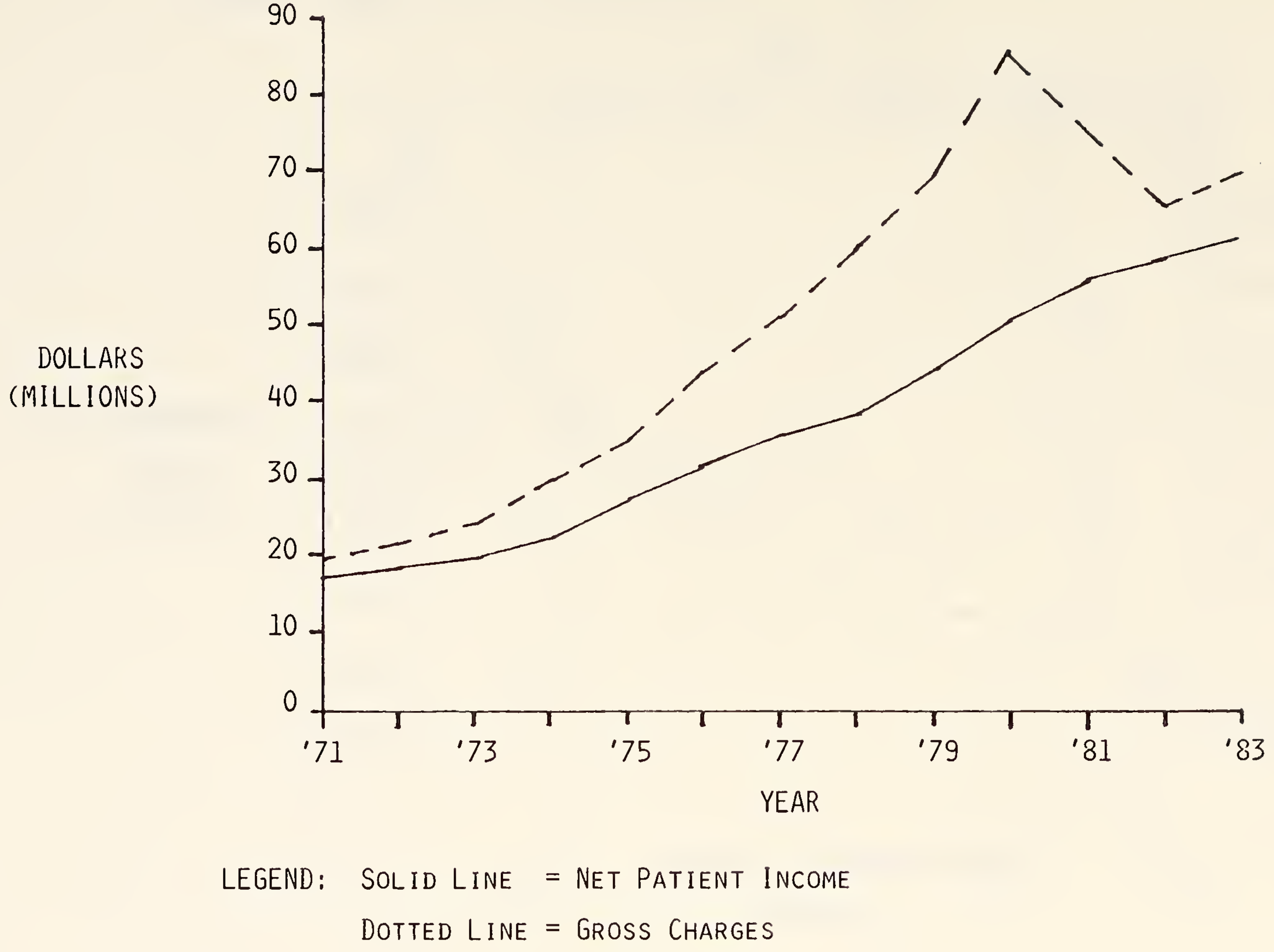


EXHIBIT 3

PATIENT DAYS/ADMISSIONS

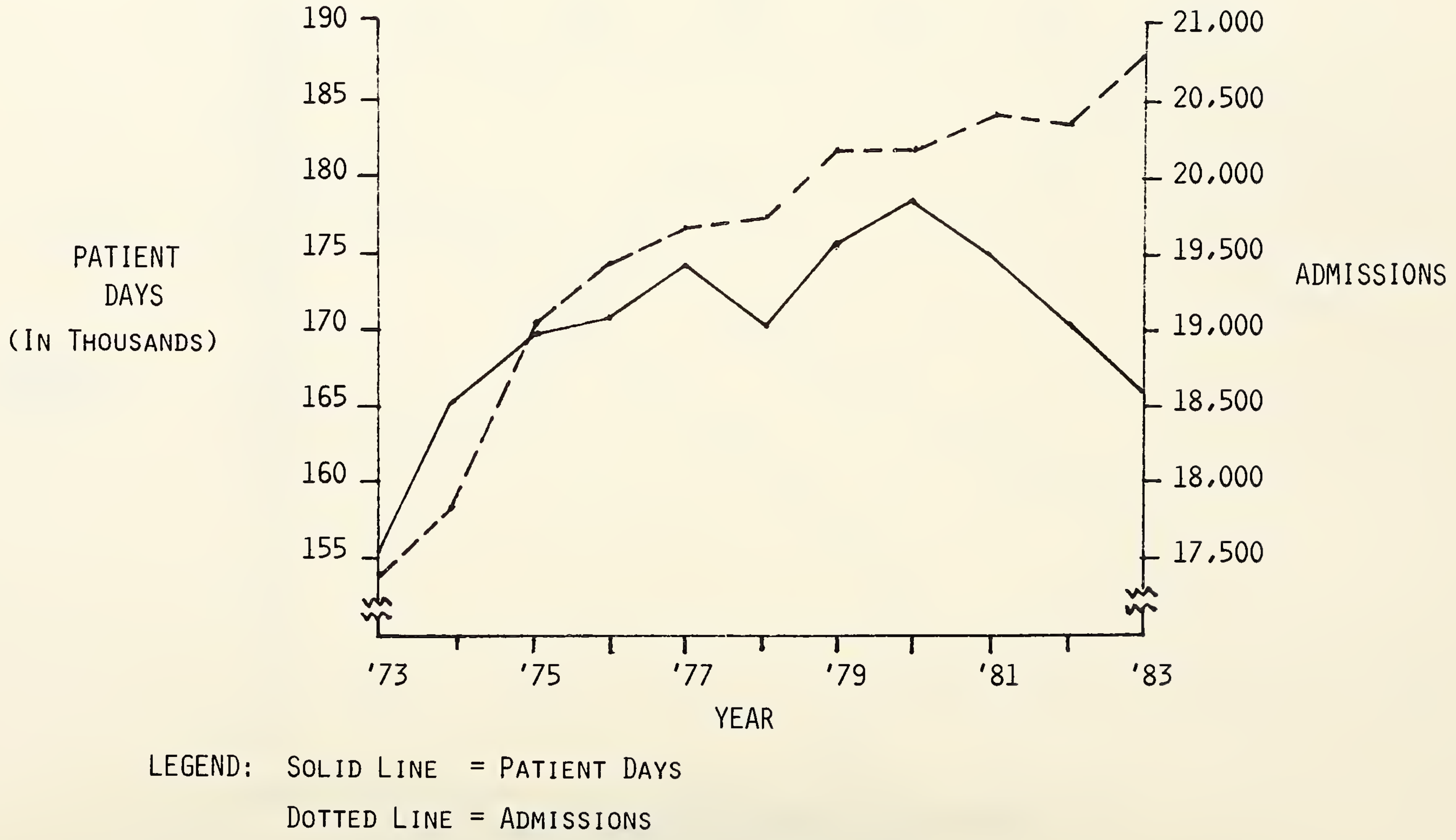
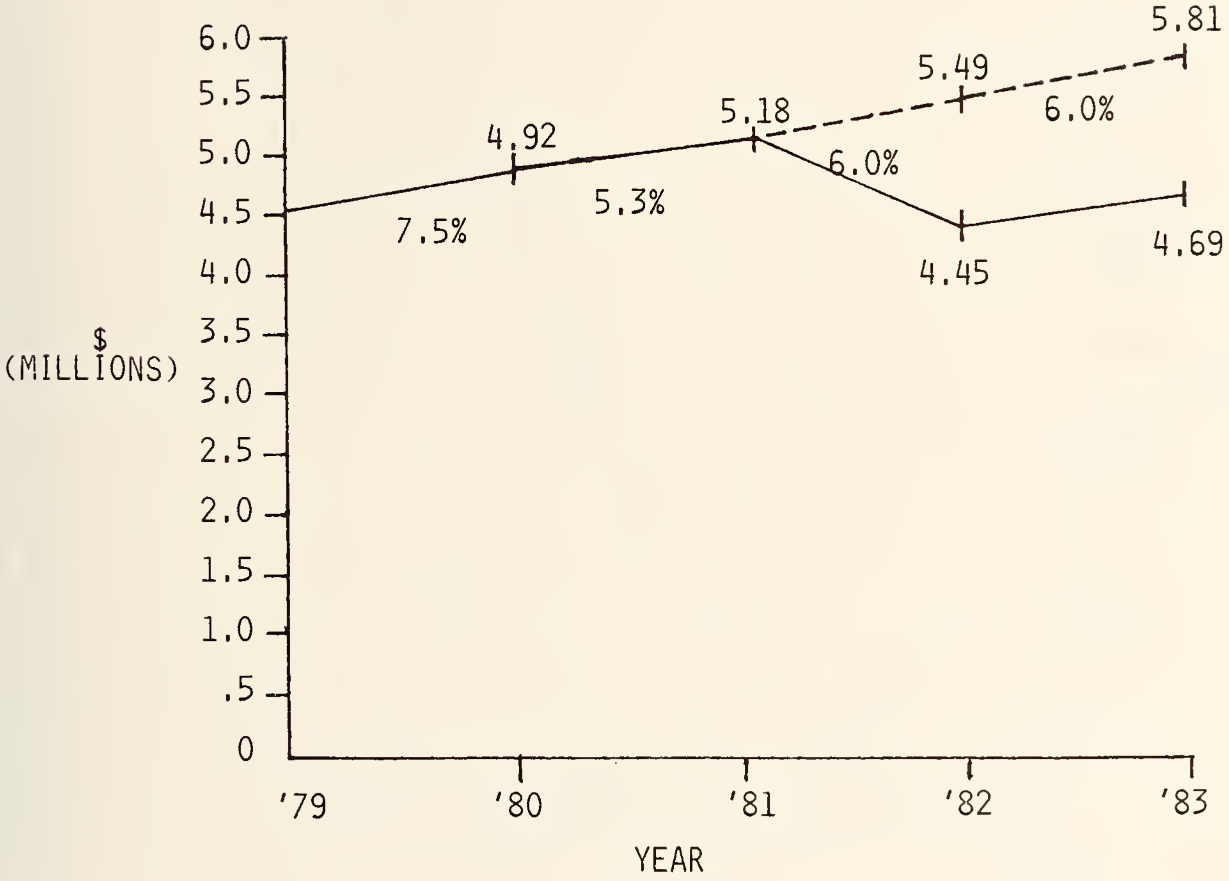


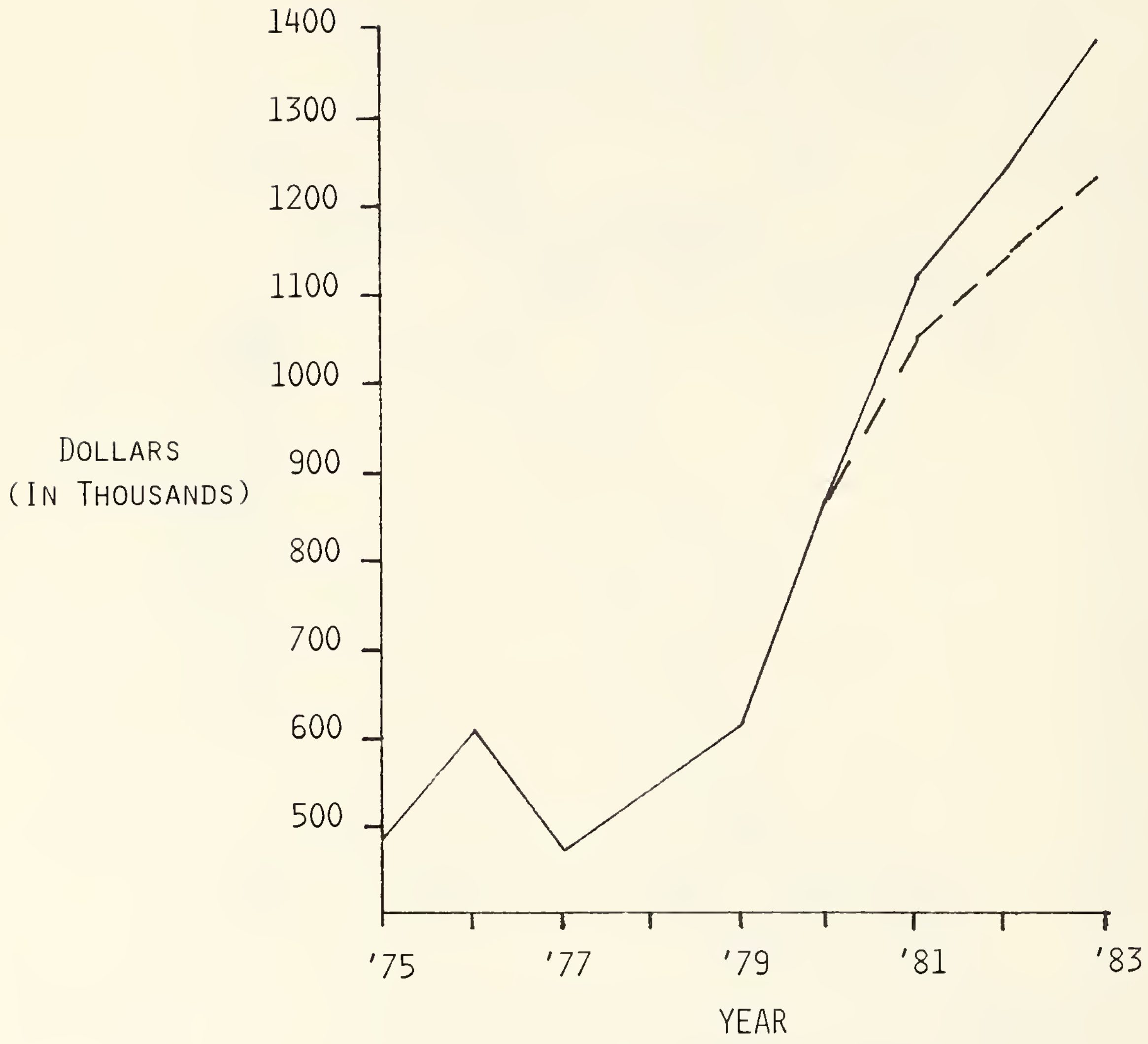
EXHIBIT 4
ADMINISTRATIVE/GENERAL CATEGORY
1979-1983 EXPENSES



LEGEND: Solid Line = Actual Expense
Dotted Line = Projected Growth at 6% Per Annum

EXHIBIT 5

DEPRECIATION EXPENSE AND REIMBURSEMENT



LEGEND: Solid Line = Depreciation Expense

Dotted Line = Depreciation Reimbursement

Concurrent Symposia A-E

IMPACT OF DRGs ON HOSPITAL FINANCIAL MANAGEMENT

Michael F. Doody, Healthcare Financial Management Association

Introduction:

The characteristics of the New Medicare payment system that will have far reaching implication on hospital financial performance and therefore on hospital financial management are threefold: the Medicare system is prospective, the unit of payment is the case and prices are determined based on DRG classification of the case.

Prospective:

Medicare prices for a major portion of hospital operating expenses are determined in advance with no retroactive adjustment for actual cost experience. This severs the relationship between incurred cost and revenues for a major portion of hospital expenses and puts the hospital at risk. There is a potential for gains or losses that introduces increased incentives to manage costs. Increased attention to department productivity will be an important response to the new system. A closer look at labor and supply costs will undoubtedly mean increasing emphasis on the budgeting process and on the development of productivity standards to evaluate departmental performance. The assessment of staffing patterns and implementation of inventory management programs will be of greater importance than in the past.

Unit of payment:

Medicare's unit of payment is now by the case rather than by the day and by unit of service in ancillary departments. This dramatic change introduces entirely new financial incentives to constrain units of service per case since the price per case is fixed in advance. The management of length of stay and use of ancillary services will require hospital managers to develop a different focus for their relationships with medical staff. The success of this new relationship will depend in large measure on the development of new data and reporting systems for communicating with medical staff and department managers. Utilization review and a concurrent assessment of financial implications of variations in resources used to treat cases will be a significant new activity for many hospitals.

DRGs:

The Medicare system's classification of the type of case by diagnosis related groups (DRGs) and the determination of a price for each DRG means that hospital administration and medical staff now have a common language for discussing the impact of medical treatment patterns and hospital operating decisions on the hospital's financial status. The use of DRGs for this purpose has been and will continue to be criticized. Refinement of the classification system will probably take over time. But for now hospitals have to deal with the fact that DRGs have been chosen to reflect expected resource consumption. The financial manager's ability to develop and manage data systems designed to identify costs for groups of DRGs will be the key to successful long-range planning for hospital financial viability.

HOSPITAL FINANCIAL MANAGEMENT UNDER THE NEW DRG SYSTEM

Richard E. Murray, Kennedy Memorial Hospitals-University Medical Center

I. Financial Management

No Change to Basic Principles

- Protect Assets
- Maintain and Promote Solvency

The basic principles or duties of the Financial Manager are unchanged from the periods prior to DRG's to the periods subsequent to DRG's.

- Required to secure assets of institution.
- Required to maintain, promote, and assure continued financial solvency.

II. What Has Been Said

- Mike Doody, President, Healthcare Financial Management Association

"For institutions to survive, managers must have appropriate utilization data to modify physician practice patterns."

"Chief Financial Officer will need to be more of a generalist in management."

- Healthcare Financial Management Association Magazine May 1983

"Virtually every aspect of hospital management must be viewed in a new dimension."

- Modern Healthcare Magazine September 1983

"Low prospective rates will surprise administrators."

- Hospital Management Review December 1982

"DRG's will present threat to quality of care."

- Hospitals Magazine March 1983

"Diagnosis based pricing will create massive changes in hospital information planning needs."

"Costant care concerns must be shared by management and medical staff if hospital hopes to keep its doors open in an era of prospective pricing."

- Other Articles and Actions

Proprietary hospitals flee New Jersey.

New Jersey Medical Society Condemns DRG's.

Only ten hospitals volunteer for new DRG system - 1980.

Hospital closings forewarned.

There has been, and continues to be, a cascade of articles and publications which have indicated that DRG's will not only reduce the quality of care, but will jeopardize the solvency and existence of hospitals.

The second most popular question asked of New Jersey hospital representatives is, "Has quality suffered?" (The most popular question is, "How do we prepare internally to combat or confront DRG's?"

III. What Changes Have Actually Occurred

- Fully Regulated Environment

Movement Toward Utility Model - In addition to the total regulation aspect, rates are established and designed to be rolled over each year with an economic factor. Rates are set and increases are granted by a commission similar to gas/electric/telephone.

Utility Mentality Dilemma - Great reluctance to embrace the utility model mentality because although hospitals are fully regulated -- they are not shielded from competition. Generally, natural gas cannot be obtained from another distributor/but you can go down the street to another hospital. The dilemma exists under the fully-regulated utility model environment, when at the same time the challenges of competition must be met.

- Elimination of Cost Shifting

Cost shifting is a technique of charging and recovering more dollars from one payor when another payor reduces their share. Typically, the commercial insurance industry would be made to incur higher payouts when Medicare cuts occur. All payors in New Jersey pay the same, and, therefore, this practice has been nearly eliminated.

- Severe Financial Uncertainties

  See details under "Facts Behind Facts."

- No Easy/Quick Return From Financial Losses

  Hospitals that have incurred operating losses have not been able to reverse their positions within traditional periods of time.

- Decrease in Average Length of Stay

IV. What is Actual Experience in New Jersey Regarding Assets and Solvency

For the first twenty-six hospitals on the DRG system, the average net income from operations:

- Increased Significantly in 1980 over 1979.
- Increased Moderately in 1981 over 1979.
- No Significant Change in 1982 over 1979.

Actual Experience

No significant change in ability to borrow.

- Increased Capital Borrowing

Annual cost increases declining.

- Strong figures in third and fourth year of program.

V. Why Do Facts Not Support Outcry?

Facts Behind the Facts

Tremendous Confusion and Disagreement Regarding Actual Operating Results.

- Lack of agreement - C.P.A.'s.
- Annual regulation changes.
- Retroactive regulation interpretations.
- Delay in rate setting.
- Delay in appeal process.

Average is Misleading.

- Shift rural/urban.
- Large annual fluctuations causing stress and management uncertainty.

Annual Ratcheting - Trend Clear.

Investor apprehension in tax-exempt bonds caused by perception that industry is burdened with over-regulation and high degree of uncertainty/ temporarily overcome!

VI. Concluding Review

Initial and continuing outcry to DRG's.

Facts or results of operations have been satisfactory to date.

Hidden agenda or "handwriting on the wall" -- real reason for uneasiness.

VII. DRG system - traumatic administrative install. It is often easily forgotten in late 1983 that the magnitude of administrative disruption in 1980 was significant.

System is working to reduce costs.

- Reasonable equitable manner.
- Prospective/incentive vs. old cost based.

System has created a new level of financial complexity.

System provides excellent management information.

- System has tremendous potential.

FINANCIAL MANAGEMENT TECHNIQUES UNDER A PROSPECTIVE PAYMENT SYSTEM

George Westfall, Deloitte Haskins & Sells

Since the mid-1970's when the New Jersey State Department of Health first announced its intention to develop and implement a prospective payment system for hospitals based upon diagnosis related groups (DRGs), there has been a flood of public testimony and superbly written articles which have argued that DRGs are an inappropriate base for hospital reimbursement. With the enactment of the Tax Equity and Financial Responsibility Act (TEFRA) in 1982, the body of literature denouncing the use of DRGs in a prospective payment system has probably doubled in size.

On September 1, 1983 the Health Care Financing Administration (HCFA) published an interim final rule which sets forth the future conditions and procedures for making Medicare payments to hospitals for inpatient services. In that 100-plus page document, HCFA announced its intention to adopt a prospective payment system based upon DRGs in a manner similar to the system first utilized by the State of New Jersey in 1980. Since September, the scholars of hospital administration and health care financing have continued to publish their arguments against the use of DRGs and some have proposed alternatives they believe more appropriate.

It would not take the magic of a crystal ball to predict that the rules for prospective payment promulgated by the HCFA in September will be modified continuously over the next few years. The extent to which DRGs remain the basis of payment will depend upon the ability of the opponents of DRGs to develop an alternate patient classification scheme which is both economically and politically acceptable to the HCFA. But, the political pendulum has swung. The primary concern of the HCFA is that the hospital payment methodology must guarantee cost containment.

The point is that regardless of the adequacy of the payment mechanism selected by the HCFA, hospital managements should concentrate their efforts upon directing their hospitals in such a way as to insure the continued financial viability of their institutions. Like it or not, the HCFA has selected DRGs as the method of differentiating the needs of patients treated in our hospitals. The rules of the game are clearly defined, participation is for the most part mandatory and those who develop the appropriate skills and respond to the challenge presented by the HCFA will aid in assuring that there will be no long term negative financial impact on their institutions.

Responding to the challenges presented by regulators is not a new task for hospital financial managers. Since the inception of the Medicare program nearly 20 years ago, hospital financial managers have had to respond to increasing regulation. The major impact of the current change in the federal payment mechanism is that the financial managers will require the cooperation and participation of the hospitals' medical staff to effectively respond. As others have already observed, efforts to increase payments through "fiscal slight of hand" or "creative accounting" will prove to be insufficient by themselves (1).

By identifying some of the specific financial management techniques which will be necessary to measure performance of hospitals under a prospective payment system, one can readily understand why the medical staff will need to actively participate for a hospital to be successful. While there are many specific techniques which are necessary under prospective payment, they can be categorized into one of four general management programs, namely:

- Initiate Product Line Management
- Investigate Unit Costs
- Manage Input Units
- Develop Competitive Pricing Strategies

None of the programs identified is a new management technique, rather, they are discussed because they have not been fully developed by many hospitals. Each will be discussed in outline form. The specific implementation plan and the relevance of each of these programs will depend upon the particular circumstances of the individual hospital.

Product Line Management

The position of product manager was established over 50 years ago at Procter and Gamble (2). Though the concept of the product manager has evolved and the roles of product managers vary from organization to organization, the major functions of the product manager in a hospital are:

- Assess community health needs and the ability of the hospital to meet those needs.
- Develop and implement strategies for caring for patients in an efficient, cost-effective manner.
- Evaluate alternative care strategies, particularly in light of new technologies.
- Monitor performance and develop plan modifications as required.

In many institutions, the function of planner has been recognized, however hospital planners have typically not had full profit center responsibility. That is, hospital planners have been responsible for assessing the needs of the community and developing a plan for the provision of needed services at the hospital. Few hospital planners have been given the responsibility for determining the economic or financial impact the new service has upon the hospital nor the subsequent evaluation of the service against original volume and financial projections.

Since the advent of DRG-based payment systems, many hospitals have appointed "DRG Coordinators" or positions with similar titles. Most of the individuals serve to some extent as product managers but are hampered because they:

- Have limited authority for modifying the way care is delivered to patients.
- Are forced to concentrate upon those products which the hospital cannot produce in an efficient, cost-effective manner.
- Have served in an analytical role to determine the causes of poor performance rather than to develop strategies for long term product growth.

Additionally, many DRG Coordinators have found themselves declaring, "The reason the cost of caring for these patients exceeded the payment rates is because DRGs are an inexact patient classification scheme". Most hospitals will find that while DRGs can serve as a basis for classifying patients, product lines will be defined by aggregating or disaggregating DRGs.

First of all, few community hospitals serve patients in all DRGs. Many hospitals will find that 80 percent of their patients fall into one of 30 DRGs. Second, many DRGs can be grouped into one product line for planning and management purposes. For example, appendectomies fall into four separate DRGs depending upon the patient's age and the presence or absence of complications. For purposes of product line management, it may only be necessary to know how many appendectomies were or will be performed and that length of stay varies from 7 to 12 days, depending upon the patient's condition.

Product line managers will be responsible for developing (in cooperation with the medical staff) strategies for providing services to patients in an efficient manner and determining which types of services the hospital should not provide. To perform this function effectively, he will need to work closely with the medical staff, financial management and administration.

The elimination of services needed by the community is not something which hospital administrators take lightly. However, if a hospital does not receive adequate payment for some of the services it provides and there is insufficient cash flow from other sources (such as philantropy and margins from other services) than the hospital's financial viability is threatened. Unless appropriate action is taken, the hospital will be forced to close and the community will be deprived of all the services provided by that hospital.

Unit Costs

The art of cost acounting has been developing since World War II, but most hospitals have not begun to understand the relative costs of the thousands of service they provide to patients nor the way administrative and overhead costs change under different volume scenarios.

For the most part, hospitals have had no need to know the cost difference between, for example, two different tests performed by the laboratory. Neither has there been any great need to know the cost of one protocol for treating a patient versus another. Under prospective payment, it will be essential to gather such information so that management will understand how changes in protocols will impact product costs and will be able to make informed decisions such as regarding the acquistion of new laboratory or radiology equipment and whether to construct new beds.

Almost since the first announcement that Medicare was to adopt a prospective payment system, many have been declaring that the key to survival will be to reduce length of stay and provide greater outpatient services. While there may be considerable validity in that strategy, it just isn't that simple.

For one thing, an across the board reduction in length of stay will produce one outcome with certainty; namely, reduced occupancy. In the absence of new patients to fill the beds, the efficiency of the hospital is reduced and unit costs will rise. With recent trends indicating the number of inpatient care days per thousand population is declining, it is unreasonable to assume that hospitals will be capable of attracting a sufficient number of new patients to fill the vacancies created by discharging patients earlier (3).

In addition, there is considerable question whether hospitals can provide laboratory tests more efficiently prior to admission than in the inpatient setting. The question is what amount of laboratory testing prior to admission will reduce testing during the patient's stay and perhaps reduce the patient's stay. What we do not know is what portion of the services provided to a patient during confinement can be economically provided either before or after discharge.

We also do not know to what extent the change in mode of treatment affects unit cost. If, for example, all routine laboratory tests are done on an outpatient basis, does the average unit cost of a test performed for an inpatient rise? Certainly, under the conditions specified, items such as standby cost per unit would increase.

Finally, and probably most important, hospital financial managers will need to understand the relationships which exist between unit cost and volume. Everything else being equal, unit costs rise as volumes of output decrease.

Financial managers need to explore various methods of reducing costs concurrent with decreasing volume with administration. In some instances, it may involve additional equipment or other capital improvements and in others it may be accomplished through more sophisticated scheduling techniques or other productivity improvement methods.

Managing Input Units

Under a cost-based reimbursement system, if a hospital provided more services to a Medicare patient, it generally recieved more reimbursement. The incentives were two-fold. First, greater output (such as more days of care in a nursing unit) resulted in lower unit costs, thereby making the hospital less susceptible to routine cost limitations under the Medicare reimbursement principles then in effect. Second, as the Medicare program absorbed a greater portion of the fixed overhead, and unit costs were reduced, prices to other payers for services to their beneficiaries could be more competitive.

This last statement is not necessarily contrary to the arguments of many who claim that to the extent that Medicare has not paid a proprotionate share of the cost of services provided to Medicare patients, other payers have had to pay higher prices to keep hospitals solvent. To some extent this is true, but the prices paid by non-Medicare payers remain lower than they otherwise would be if the

Medicare program did not exist. Without the benefits provided by the Medicare program, few of the aged could pay for the services provided by hospitals. Therefore, utilization would be reduced considerably and charity care would be increased. In the final analysis, non-Medicare payers would probably experience higher prices if the Medicare program were to cease to exist, unless we were to decide that it would be satisfactory for our elderly to receive less than adequate medical care.

The amount paid by the Medicare program under the prospective payment system (PPS) has little relationship to the number of or types of services provided. In fact, the hospital has an incentive to provide as few services as possible, in order to reduce the overall cost of caring for the patient.

PPS provides significant incentives to hospitals, but reducing the amount of care rendered to patients requires careful study. Even if decisions are left entirely to the medical staff as to which services are to be eliminated or reduced, the hospital may find that there is no financial advantage. Less is not necessarily better - for neither the patient nor the hospital. For example, reductions in the use of antibiotics may increae infection rates, thereby increasing length of stay. In this instance, the hospital assumes the risk of $400 extra cost in the form of two days more days of confinement to attain the beneift of reducing cost (in pharmaceuticals) less than $20.

Generally, hospitals have a wealth of information regarding the input units used to care for patients. From the detail transactions in the patient billing system, most hospitals can create profiles of services rendered to individual patients or groups of patients with similar diagnoses. Even though most hospitals will not immediately be able to assign precise costs to this information, data concerning the number and variety of services rendered to patients will be of considerable value to the medical staff as they study and attempt to choose the "best" protocol from a field of many.

Pathologists, radiologists and pharmacists, who normally respond to the attending physicians' orders for services to patients, can also serve in a consultative role by reviewing patient profiles and suggesting alternative drugs and services for future patients with similar diagnoses. For example, pharmacists will be able to suggest alternative antibiotics which require fewer administrations, have fewer contraindications, cost less or are shown to be more efficacious. The pharmacist can also be a resource to the attending physician by gathering and diseminating information which will be used to determine whether drugs should be removed from or added to the hospital's formulary.

Competitive Pricing Strategies

The Federal government is not alone in its desire to sharply curtail the growth in the cost of hospital services. Hospitals have been under pressure to reduce cost from all payer groups. Recently, the health insurors have been joined by corporate managers who have realized that the premiums they pay for their employees' health insurance are taking larger bites into their profit margins (4). While many corporate leaders are taking a more systematic approach to the reduction of health care costs by encouraging employees to participate in wellness programs and providing in-house counseling and fitness centers, they are also seeking "preferred-provider" arrangements with hospitals and other health care providers.

In a preferred-provider plan, conservative, efficient providers are identified to consumers. If the consumers use the identified providers, they are fully covered. If they choose other providers, they are normally required to pay any price differential (5). This concept has been somewhat distorted by some insurors who use the volume of services purchased and consumers represented to demand discounts from providers. Whether or not the payers are adhering to the true definition of preferred-providers, the fact remains that hospitals are being approached and asked to enter into pricing agreements which require careful study.

Hospitals which serve as sole community providers are at little risk from payers attempting to establish preferred-provider relationships. To be effective under those circumstances, the payer would need to encourage patients to travel to another community to receive care. However, hospitals in communities served by more than one hospital will be subjected to more intensive, direct competition if payers are successful in establishing preferred-provider arrangements.

To enter into intelligent preferred-provider arrangements, hospitals must understand how unit costs behave under various volume assumptions. For example they must know the approximate impact of losing all the patients from a particular employer should another hospital be successful in entering into a preferred-provider arrangement. If the financial impact is considered severe, the hospital may wish to initiate negotiations with the employer or its insurance representative.

Pricing and cost is but one issue when entering into a preferred-provider arrangement. A hospital must also know that it can properly care for the patients and must be willing to make the investments in equipment and human resources as required to fulfill its part of the agreement. Additionally, the hospital must have the confidence of the physicians in the community who typically admit and care for the patients or physicians will encourage patients to accept the financial risk associated with being admitted to other hospitals.

Conclusion

The advent of PPS provides new impetus for hospitals to adopt new business strategies. The financial officers of hospitals will be required to generate information which is new to them but is basic to most other industries (6). While the techniques presented here are segmented for discussion purposes, they should be developed into a cohesive plan for utilizing existing data to better manage hospitals in what will prove to be a more competitive environment.

None of the techniques discussed are new per se, but all are underutilized in hopitals. The models for implementation are available in many other industries where in some cases the strategies discussed have been in place for decades.

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IMPACT OF DRGS ON MEDICAL RECORD DEPARTMENTS

Regina McPhillips, Health Care Financing Administration

Good afternoon. I am Regina McPhillips, Director of the Bureau of Data Management and Strategy for the Health Care Financing Administration (HCFA). The Bureau is HCFA's focal point for information needs, data standards and long range information planning. The Bureau develops and disseminates statistical information and data on Medicare and Medicaid beneficiaries, providers, costs and services rendered, as well as programmatic and national data on current and projected health care expenditures. The Bureau also provides all of HCFA's actuarial estimates and performs the information resources management function for the Agency.

HCFA and its contractors process millions of bills each year. We at HCFA know the value of quality data, coding, and medical records. These three elements are critical factors in the success of Medicare's new Prospective Payment System. Our speakers will develop aspects of these elements in their discussion of the impact of Diagnosis Related Groups (DRGs) on medical record departments. The speakers will also discuss hospital staff and physician instruction in the Prospective Payment System, specifications for medical record departments, and coding.

Our first speaker is Joan Loughran, RRA, Director of Medical Records for the multi-divisional West Jersey Health System in Camden, New Jersey. She is President of the Medical Record Association of New Jersey. Ms. Loughran has been actively involved both in New Jersey and nationally with DRGs. She served as a medical record consultant to the ICD-9-CM Steering Committee which developed the current DRGs. She has given numerous presentations to various health care organizations on the DRG system. Ms. Loughran was recently featured in the April, 1983 issue of Modern Healthcare in an article on the Role of Medical Records in the DRG System.

Our second speaker is Harry Savitt, Acting Director, Division of Data Policy and Standards, Office of Information Resources Management, Bureau of Data Management and Strategy, Health Care Financing Administration.

Dr. Savitt is a graduate of the University of Connecticut where he majored in pharmacy. He obtained a Masters in Public Health in Biometry and Medical Care at Yale University and a Doctorate in Pharmacy at the University of Maryland.

He is the author of numerous publications on enrollment and utilization under Medicare.

From 1977 to 1979 he was a member of the Steering Committee, International Classification of Diseases, Ninth Revision, Clinical Modification. Currently he is serving on a panel of experts that advises the World Health Organization in developing the 10th Revision of the ICD.

Since 1980 he has served as Director of the Association for Health Care Quality.

He also represents HCFA on the National Uniform Bill Committee and serves as Chairperson of the Department of Health and Human Services Uniform Hospital Discharge Data Set Interagency Task Force.

Dr. Savitt has spoken extensively on the quality of data in medical records, and has narrated HCFA's well-known training film entitled, "Better Coding, Better Data."

IMPACT OF DRGS ON MEDICAL RECORD DEPARTMENTS

Introduction

Harry L. Savitt, Health Care Financing Administration

As you are well aware, this is a time of great change in the health care industry, in the Medicare program, and in the interactions between Medicare as the source of payment and the various individuals, organizations, and institutions which provide covered services. In some States, such as New Jersey, other payers are involved in these changes. These changes will affect many departments within the hospital, particularly the medical records departments and the medical records professionals who staff and direct those departments. However, it is important to recognize that many activities within the medical records department and elsewhere in the hospital will not be directly affected by the adoption of prospective payment based on diagnosis related groups.

It is also important to realize that although there is much that hospitals elsewhere can learn from the New Jersey experience, the mechanics of DRG reimbursement will differ in several important respects. In New Jersey the hospital assigns the DRG, but this will not be the case for Medicare elsewhere. In New Jersey a uniform bill has been in use for many years, while elsewhere only a few States have converted to the UB-82, that is, the uniform bill developed by the health care industry's National Uniform Bill Committee.

The lessons from New Jersey that I believe will be most useful to medical records staff in other States relate to the success of New Jersey hospitals in dealing with:

- Timeliness of obtaining discharge diagnoses.
- Identification of the principal diagnosis.
- Completeness of diagnoses and procedures reporting.
- Accuracy of coding.
- The changing role of the medical records department in its relationships with the medical staff and the billing office.

1. Hospital Megatrends

The adoption of DRGs as a basis for reimbursement is superimposed on a number of other trends affecting hospitals everywhere. First, there is a trend toward increasing "intensity" of service, i.e., more services being delivered in shorter periods of time. Second, the issue of pricing differentials has come out in the open with the contracting for care under Medicaid in California. Although New Jersey hospitals have been protected from the discount demands of locally predominant payers, the battle is just beginning elsewhere and price competition is becoming a reality.

Any discussion of hospital megatrends should also acknowledge "corporate restructuring" which is at least partially encouraged by the Medicare cost reimbursement rules. DRG-based reimbursement will eliminate some but not all of the incentives for restructuring and may even create new incentives. A fourth trend has been the rapid growth of the proprietary hospital chains, the formation of networks by non-profit hospitals and the rapid pace of mergers and affiliations among hospitals. Although the reasons for the growth of the chains are complex, the capital shortfall for non-profits and access to equity markets for investor owned hospitals is often cited. Whether it is due to, in response to, or independent of the growth of proprietary hospitals, there is no question but that hospital management is rapidly becoming more sophisticated.

Another area of change is that of automation, particularly in the business office. Use of computers to prepare the bill and to process discharge data provided by medical records is a reality in most hospitals today. Electronic media claims (EMC) submission is also growing by leaps and bounds. The development of UB-82 and the standard EMC format will encourage further automation.

Most of these megatrends will impact the medical records department. Increasing intensity of service, for example, creates additional workload in the medical records department by increasing the number of documents to be filed, increasing the number of admissions for the same average census, adding special registries, and increasing the complexity of abstracting and coding. Although pricing differentials have no impact per se on medical records, the demands for more information by many payers with cost containment programs, the increasing use of external auditors to determine if all items on the bill are justified by orders in the medical record, and the special analyses needed by hospital administration to support contractual negotiations, place increasing demands on the medical records department. I am not aware of any studies of differences in medical records department operations as a function of corporate restructuring or of proprietary versus non-profit hospital ownership. However, the medium and large sized hospitals operated by the chains do tend to participate disproportionately in group discharge abstract services, perhaps as a way to obtain comparative data as much as for supporting internal quality assurance programs.

2. Reimbursement Forces

The New Jersey DRG experiment and the Medicare conversion to DRGs nationally are not the only per case reimbursement activities underway. Maryland, for example, has had its "Guaranteed Inpatient Revenue", or GIR, experiment for about as long as New Jersey, although not all hospitals participate. In Maryland the payment for each patient is based on approved charges for the resources consumed for that patient, but "wins" and "losses" are periodically tallied and the prospectively set hospital budget adjusted to reflect the net over or under charges for the year. Blue

Cross plans in Kansas, Oklahoma, and Arizona are in the process of implementing DRG reimbursement. In Kansas and Oklahoma a preliminary DRG assigned at the time of billing is used for establishing the amount of reimbursement, but discharge abstracts are subsequently used to determine final reimbursement amounts. Any differences result in retrospective adjustments.

There are also self-insured employers with preferred provider arrangements. Some of these involve flat rate reimbursement, or various case mix adjustments.

Because many State Medicaid programs have traditionally linked their hospital reimbursement to Medicare procedures, some of the States will also adopt DRG-based reimbursement. Utah, for example, is almost ready for DRG-based reimbursement for Medicaid.

Impact on medical records department responsibilities and procedures.

In 1980, the Health Care Financing Administration (HCFA) initiated the "Medicare Data Quality Improvement Study" to assess and improve the quality of the diagnoses and surgical procedure data reported on hospital in-patient bills for Medicare patients. As part of the study, we conducted site visits and reabstracting studies in 14 States, including New Jersey. The New Jersey visits were made in the summer of 1981 when not all hospitals had been converted to the DRG system, but it was clear that even those that had not yet converted would soon do so. It was encouraging to us at HCFA to note that even though the diagnoses and surgical procedure data entered on the bill were irrelevant for reimbursement once the DRG was assigned by the hospital, the quality of the data was generally good. In fact, the average data quality measures for the samples of hospitals studied in each State were best in New Jersey. This observation leads to the reason for our gathering at this conference. What are the expected impacts of DRGs on medical records departments? I will try to answer this question in terms of five areas of impact:

1. Quality of data entered into the medical record.
2. Abstracting and coding.
3. Coordination with the billing department.
4. Payer feedback and monitoring.
5. Hospital internal response.

1. Quality of the Data Entered in the Medical Record

The first area, that of the documentation available to the medical record department, is the foundation for everything that follows. Even in New Jersey it is not possible to make a silk purse out of a sow's ear, or any other part. If the record has only garbage in it, that is all that can be abstracted and coded. Those who make entries in the medical record must give complete and legible information, organized in a way that allows others to fully understand that case and how the patient was treated. Several data elements and data quality characteristics are of particular importance:

Diagnoses Data - The record must contain a full listing of all diagnoses of the patient during the inpatient stay. This information must be provided in a timely manner -- usually within 3-4 days after discharge, if it is not possible to provide it at the time of discharge. Each diagnosis must be fully described, including all modifiers. Terms such as chronic and acute, identification of primary and secondary sites, etiology, and complications all must accompany each diagnosis. Most importantly, the attending physician should identify the UHDDS-defined principal diagnosis.

Procedures Data - Procedures data must also be fully described, all procedures performed must be identified, and medical record entries must be completed in a timely manner. For surgical procedures, data quality is often very good. Surgeons generally dictate the operations notes immediately after surgery -- the notes are often reviewed in the surgery department for completeness of the list of procedures and for completeness of the narrative for each procedure. Because the surgeon's fee is dependent on this same information, data quality problems are primarily logistical rather than political.

Improvements - There are several ways that the hospital can encourage improvements in medical records entries. First, forms such as the face sheet can be designed to "coach" the physician as to what information is needed, for example, a box for the principal diagnosis, with the definition. Separate blocks for complications, manifestations, and other relevant co-morbidity will also help to encourage completeness. It will be necessary to provide educational programs for physicians as to the level of detail needed to permit complete coding. If the physician knows that it is important for him or her to indicate that this is an acute flare-up of chronic bronchitis, he or she will provide this information rather than merely indicating bronchitis. For infectious diseases, the physician will indicate the organism responsible in the discharge summary, if known, provided that someone tells him that it is necessary. Education of physicians will be a continuing effort, but the physicians will be accommodating if given the correct definitions and information as to detail needed and the reasons why.

Much has been said about the timeliness issue, and it is always possible to cite the unusual case where complete information cannot be made available until many days after discharge. However, for most patients the record can be completed within a few days after discharge. New Jersey hospitals are generally quite good at this. However, hospitals will have to promulgate and enforce rules as to completeness and timeliness of medical records completed by physicians. I hate to see these particular rules linked to the reimbursement system, since they are really quality assurance issues. JCAH reviews focus on these as well as other issues, and we should not have to attribute DRG-based reimbursement as the reason for providing a complete, timely, and legible medical record.

Finally, every hospital medical records department needs to monitor the quality of records and provide feedback as to how the staff is doing. The standards of excellence are well known, but without feedback staff will not know that corrections are needed and how to make these corrections.

2. Abstracting and Coding

Once you have a complete medical record, the task of abstracting and coding high quality data is facilitated. However, continuing education of the medical record department staff is crucial. Let us talk about continuing education for abstracting and coding. Abstracting for support of DRG-based reimbursement requires adherence to the Uniform Hospital Discharge Data Set (UHDDS) definitions. The UHDDS was first recommended by the United States Committee on Vital and Health Statistics (USCVHS) - currently the National Committee on Vital and Health Statistics - in 1972 and endorsed in 1974 by the former Department of Health Education and Welfare (DHEW). The UHDDS is presently being reviewed by a subcommittee of the National Committee on Vital and Health Statistics as well as by a Federal Interagency Task Force. It is anticipated that the UHDDS will be clarified through modification of certain data element definitions, particularly those dealing with some frequently occurring problem situations. As an example, a modification may address the question of how we should obtain uniformly coded information on "race" or "date of birth" when the needed information does not appear in the medical record and cannot be obtained from other sources. Another example may address the issue of "determining the date of the inpatient admission where a patient enters the emergency room at 10 p.m., and then is placed in an inpatient bed at 5 a.m. the next morning after failing to improve in the emergency room."

In addition, the present ICD-9-CM classes of procedures lists have not worked out as well as intended and may be dropped. The definitions for the classes probably will be kept, but the list which was developed in 1978 is no longer adequate. Newly developed procedures which should be class 1, for example, may be coded in residual codes that were designated as class 2 on the original lists.

Coding of diagnoses and procedures for DRGs today must be in ICD-9-CM. Although ICD-9-CM was only implemented at the start of 1979, it is based on the ICD-9 which was issued in 1975 by the World Health Organization (WHO). WHO is already preparing for the development of ICD-10. Historically, the ICD has been revised on a 10 year cycle, except when interrruped by the World Wars. During the past two months I attended planning sessions of the ICD committee in Geneva, Switzerland and Beijing, China and the consensus was to recommend that the cycle be extended to 15 years. Thus, if the WHO agrees, it will be 1990 before ICD-10 is issued, and early in the 1990s before we have a major revision to the ICD-9-CM diagnostic codes. At this time, all major national payers have endorsed ICD-9-CM for diagnoses, although some continue to use other systems for coding procedures. Since January 1983, Medicare has required hospital coding in ICD-9-CM for all inpatient bills.

Since ICD-9-CM and UHDDS definitions will be used for quite a few years, all hospitals should be emphasizing staff training regarding the following critical points:

- Selection of the principal diagnosis.
- Completeness of diagnoses and procedures descriptions.
- Accurate coding.

Be sure your medical records staff fully understand the definition of the principal diagnosis, and that the record is carefully reviewed to verify that the physician has correctly identified the selection from among the list of diagnoses which applied to the patient. In considering the effects of prospective payment on medical records department coding and abstracting, we should review some of the ground rules. The regulations were published September 1, 1983 in the Federal Register as "Interim Final Rules" with a comment period. Thus, the rules have been in effect since October 1 as published, but the Department will review, consider, and respond to written comments. Final rules must be published by December 31, 1983. Section 1886 (d)(7) of the Social Security Act precludes adminstrative and judicial review of certain portions of the system, including:

- Establishment of DRGs.
- Methodology for classification of a hospital patient into a DRG.
- Weighting factors assigned to DRGs.

However, the rules anticipate that coding "errors" may be made by a hospital and authorizes the resubmission of the billing data with revised coding. Additionally, the hospital may request individual review of claims by the Professional Standards Review Organization (PSRO), the Peer Review Organization (PRO) or the fiscal intermediary that made the initial determination of the DRG assigned. The rules also state that shortly before, at, or shortly after discharge (but before a claim is submitted), the attending physician will attest, in writing, to the principal diagnosis, secondary diagnoses, and procedures performed that should be used when assigning the DRG. The medical review agent (that is, the PSRO, PRO or fiscal intermediary) will review, at the hospital, a sample of discharges every 6 months to ascertain that the diagnostic and procedural coding are substantiated by the medical records. "If the diagnostic and procedural information attested to by the attending physician is found to be inconsistent with the hospital's coding or DRG assignment, the hospital's coding will be appropriately changed and payments recalculated--" Also, if the information attested to by the physician is found not to be correct, the medical review agent will change the coding, assign the appropriate DRG, and payment will be recalculated. Hospitals which are found to have a pattern of inappropriate admission or billing practices which circumvent the prospective payment system may have their provider status suspended and be required to take corrective action to prevent or correct the inappropriate practice.

Medical review under prospective payment is to be conducted by PROs. PSROs may conduct the review until a PRO is implemented, and if there is no PSRO, the fiscal intermediary must conduct medical review until the PRO is established.

The process for PRO/PSRO review is still being developed, but intermediaries have already been instructed on how to conduct DRG validation. The procedure calls for reviewing random samples unless the proportion of invalid DRGs exceeds 2.5%. If the 2.5% threshold is exceeded, 100% review of claims against the medical record will be required. Subclassification is permitted in order to reduce the number of records subject to 100% review. Orthopedic patients, for example, might represent most errors and, therefore, all orthopedic DRG bills would have to be validated. All outlier cases will be validated for diagnostic and procedural coding. Thus, there are strong incentives for accurate abstracting and coding.

The medical records professional associations, the hospital associations, State governments, payers, and the Federal government have all recognized the need for continuing education and are contributing to it.

The American Medical Records Association (AMRA) for example, has just published a book entitled Data Quality and DRGs and it also has a new data quality clearinghouse. AMRA, the AHA, the National Center for Health Statistics (NCHS) and HCFA all participate in an ICD-9-CM coding clearinghouse. The Government Printing Office has published ICD-9-CM code books since 1980 and sells them for a fraction of the price that they were sold for by a private organization in 1979. HCFA has distributed a video training film on data quality and has undertaken a series of studies and development efforts to enhance data quality. HCFA's support of UB-82 is also at least partially based on the conviction that its adoption will lead to improved data quality. Although the first step to better abstracting and coding is staff training, the second step is to implement routine monitoring and data quality assurance. Remember, in New Jersey the hospital assigns the DRG and the accuracy of DRG assignment is monitored by the State. However, outside of New Jersey, Medicare requires that the hospital submit coded diagnoses and procedures that will be grouped into DRGs by the fiscal intermediary. Thus, the opportunities for undetected error will be greater outside of New Jersey. Internal monitoring for illogical patterns, editing for invalid codes, and periodic reabstracting and coding comparisons will be critical for each hospital's peace of mind. When errors are found, the reasons for their occurrence should be analyzed and effective intervention designed.

3. Coordination with the Billing Department

DRG-based reimbursement under Medicare requires that hospitals abstract and code the bill with complete data on diagnoses and procedures. If a code on the bill is invalid, the bill may be returned for correction. Similarly, if the principal diagnosis is a code which cannot be used as a principal diagnosis, the bill will also be returned. In addition, intermediaries will return for "verification" bills in which the surgical procedure is unrelated to the principal diagnosis. Because returned bills cause delay in payment, the pressure to reduce returns will be strong. You can expect great pressure to promptly abstract and code, little sympathy when a coding error is made, and great demand for immediate assistance in verifying exception cases that are returned for review.

In addition to coding accuracy, there will be great concern by hospital management that the reported data maximize reimbursement. Legitimate efforts to report all co-morbidity and complications can pay off. Also, many minor procedures are included in the DRG GROUPER logic as representing an "operated" versus a non-operated patient. Thus, there will be pressures for abstracting and coding more procedures than previously.

4. Payer Feedback and Monitoring

Patients will be classified into major diagnostic categories based on the principal diagnosis. Selection of the correct principal diagnosis can be critical for reimbursement. Thus, pressure to select the correct principal diagnosis may be tempered by deferring to the choice that produces the most reimbursement, when the diagnosis is not clear. However, since HCFA will monitor whether the medical record supports the diagnoses and procedures reported, including the selection of the principal diagnosis, the questions will be who makes the selection and how can the selection be shown to be "correct."

There will be times when late information changes the diagnoses or procedures previously reported on the bill. Intermediaries will accept these corrections and adjust the reimbursement accordingly. However, in most hospitals there have not been good communications in the past between medical records and the billing office. Each hospital should have the medical records and the billing departments review the flow of information and establish quality control procedures for verifying that complete, accurate transcription of the data from the medical record to the bill is actually occurring. A recent study that JRB Associates conducted for HCFA found that two out of 25 hospitals had a systematic problem between the medical records department and billing office which distorted the order of the diagnoses listed on the bill, or the completeness of the transcribed codes. Since the use of UB-82 provides strong incentives for adopting electronic media claims submission, each hospital needs to also ensure that the billing and EDP departments understand the data quality requirements and have in place a good system for routinely interacting with the medical records department.

5. Hospital Internal Response

In addition, large sums of money will be spent for automated information systems, usually with on-line edits of diagnoses and procedures codes to facilitate abstracting, coding, DRG grouping, and transmittal of information to the billing department. Video display terminal workstations in the medical records department will proliferate. Finally, although there will be an initial spurt of support for anything requested by medical records departments, cost containment realities will soon set in and the department will be expected to do more and more, and to do it better and better, with less and less. The skilled managers will survive and thrive but there will be an abundance of less skilled managers seeking early retirements or switching jobs.

Useful lessons from New Jersey

1. It Can Be Done

Ten years ago it was an exceptional hospital that abstracted and coded 95 percent of its records within 2 weeks of discharge. New Jersey has proven that such a turn around time can be accomplished by any hospital. For most discharges, there can be adequate data at the time of discharge for complete abstracting and coding. Physicians will cooperate if the task is made easy, if the system allows for exceptions, and if subsequent corrections can be made. A large backlog of records to be abstracted and coded creates additional work, clutters the work space, and has no redeeming value. However, because of variations in the patterns of discharge by day of the week, there may be times when the abstracting and coding falls behind, but there is no reason not to provide coded data by the "late charge" cutoff limit for most discharges, most of the time.

The data quality studies carried out by the Institute of Medicine in 1976-77, using 1974 discharges, are often cited as evidence of the poor quality of discharge data. However, 66% of the "discrepant" principal diagnoses and 76% of the "discrepant" principal procedures did not represent errors by the abstractor or coder. Instead, the extensive number of discrepant records essentially reflected the large number of patients for which there was no single diagnosis that represented the principal diagnosis and the inadequate documentation in the medical record. Studies by the State of New Jersey confirm that the number of "out and out" errors in abstracting and coding is small, and that training can reduce even these numbers. Timely, complete, and accurate data can be provided.

Recently, you probably have seen the term "DRG creep" mentioned in literature. This term does not refer to the person who assigns the DRG or pays the bill. Nor does it refer to any HCFA employee. "DRG creep" refers to the tendency over time for patients to be described more fully and in increasingly serious terms since such descriptions are found to influence reimbursement. An endoscopic procedure performed outside the operating room, for example, might not have been routinely listed as a "surgical procedure" on your Medicare bills last year. Next year you will want to be sure to list all the "scopies" because if you do not, your hospital may not receive full reimbursement. If DRG creep results simply from improved data quality, I am in favor of it. However, since the PRO will be validating data, there is little chance that a systematic, deliberate distortion of data will go undetected. Studies in New Jersey suggest that a small level of random errors will continue, but that DRG creep is primarily accounted for by the improved data quality which has occurred in most New Jersey hospitals.

2. New Jersey Physician Response

Perhaps the most satisfying lesson from New Jersey has been the reponse by physicians to the need for providing better and more complete information in a timely manner. Other sessions at this meeting will deal with the effect DRGs have had on the admission, treatment, and discharge patterns of physicians. I speculate that somehow better documentation in the record will also contribute to better quality care, and thereby also to cost containment.

3. Medical Records Department Role

By demanding more from medical records staff, by supporting continuing education, and by enhancing the visibility and professional stature of the department within the hospital, much will be done for the medical records department. Under DRG-based reimbursement, medical records functions must be integrated with the billing, operation, and management functions throughout the hospital. This recognition of the central role of information to hospital operations and the efficient use of the medical records department to provide information is long overdue.

INCENTIVE PAYMENT AND QUALITY OF CARE

Warren B. Nestler, Overlook Hospital

Business of hospitals is managing patients. With $70 million dollars operating expenses for 1983, managing patients at Overlook Hospital is a big business. Overlook Hospital, a 550 bed not-for-profit but not-for-loss acute care community hospital, was one of the 26 initial hospitals to participate, beginning January, 1980, in New Jersey's prospective pricing system -- the prototype of the Medicare Prospective Payment System. I will describe how we adapted to the challenges of the system, and not only survived without scars, but are a better managed institution.

Changes in our patient management organization and programs occurred as the continuum of a 13-year evolutionary process stimulated by three external forces:

- Courts - hospital has a duty to act when it knew, or should have known, that poor care was being delivered --or be held liable if sued.
- JCAH's revised 1979 Quality Assurance standard mandates a hospital-wide Quality Assurance program - or lose your accreditation, and the
- Introduction of prospective pricing in January, 1980, designed by the New Jersey legislature and the Department of Health to reward the "Effective and Efficient" Hospital and to penalize those poorly managed hospitals, provided hospitals with two managerial elements: a financial incentive, and patient management information.

Financial Incentive

In response to the systems dollar reward-/penalty features, "You save it; you keep it, but you also risk losing it," management initiated three basic adaptive actions: Commitment, Communication and Involvement.

A commitment to sound management from the top, a dual commitment not only by the Chief Executive Officer, but also, as stated by John Iglehart, by the leadership of the Medical Staff (Iglehart, 1982). We committed human resources:

- Established a new position, DRG Coordinator.
- Appointed a Chief Operations Officer and a business manager in the Nursing Division with managerial skills.
- Added personnel to Medical Records and Finance Departments.

We enhanced communication through educational programs conducted for all levels of management, voluntary medical staff, and the Board; and provided data processing resources required to utilize the merged medical records and financial data base.

Management Information

Clustering our in-patient population into 467 hospital products, with each product linked to its price, costs and average length of stay, provided the capability to compare our case-mix with a standard. These product-line pricing reports are a source of information to identify and monitor patient management problems. The value of the information is enhanced by the capability to compare each clinician's performance with that of colleagues within the institution.

Involvement

We mobilized our most important resource, clinicians - attendings, consultants and residents, physicians who are responsible for and interact with individual patients. Clinician's behavior is a key determinant of hospital revenue, patient care costs and quality of care. Thus, their involvement in hospital management, in collaboration with the administrative staff and governing board, is essential for survival.

The principal barrier to increasing the quality and decreasing the cost of care is the absence of effective organization and management of patient care services, the failure to unify the tri-partive patient management structure:

- Patients (represented by the Board of Governors).
- Administrators.
- Medical Staff.

Patient management at Overlook has been integrated and coordinated within a patient management organization (hospitals' production division) whose major components exist in all hospitals, the organized Medical Staff and the hospital-wide Quality Assurance program.

Centralizing patient management functions under the umbrella of the patient management organization was derived from our expression of the term "Quality of Care":

Quality patient care offers the patient:

Maximum achievable health benefits by efficiently providing necessary, but not unnecessary, patient care services with minimum risk of complications in a manner satisfactory to the patient.

Based on the above perception of quality, the traditional dichotomy between the terms "quality of care" and the "cost of care" is unacceptable. They are inter-related and inter-dependent. Hence, Quality Assurance, cost control and risk management functions are inseparable. Cost control and claims prevention is a spin-off of quality attainment.

Management Strategies

In response to DRG financial incentives, management designed and implemented strategies to control its costs and maximize its revenue. We focused our management efforts to identify, analyze, correct and prevent patient care problems:

- Unnecessary Services.
- Preventable complications.
- Inefficiency.
- Unreliable and untimely documentation.

Control Costs

Costs incurred by each case is determined by the type and quantity of services provided and the efficiency by which they are performed. The principal cost control strategy is not to contain costs but involves the provision of the type and quantity of services necessary to ensure maximum achievable health benefits to all patients. Otherwise, the projections of croakers - Ben Franklin stated "there are croakers in every country, always boding its ruin" (Franklin, 1940) - that the patient's needs not being met will become a reality.

Considerable attention has been directed to the second cost control strategy, eliminate unnecessary services. The "You really oughta wanna" exhortations of the pre-DRG era to eliminate unnecessary hospital days, overtesting and overtreatment, were replaced by "You better or else". Overlook may be doubly penalized for unnecessary days, incur unnecessary costs and run the risk of termination of benefits by the PSRO. An effective bed utilization program is essential.

For example, a DRG management report identified a potential problem of unnecessary hospital days. We experienced a $57 per case loss for the product DRG #373 -uncomplicated vaginal delivery, an annual product-line loss of $68,700 on the basis of an average length of stay one-half a day longer than the average peer hospital. Eighty percent of the excess costs were attributable to bed costs (nursing, hotel costs). The report was reviewed by the obstetrical staff, supplemented by a clinician profile comparing each obstetrician with his peers. The profile identified clinicians #60, #68, #75 as the "big spenders". Since peer pressure is the most effective method of changing clinicians practice behavior, the availability of peer comparison performance data has been a valuable instrument for cost and quality control.

Resource use data (cost and length of stay) isolated one clinician responsible for the cost overrun of the product DRG #355, hysterectomy. Surgeon #500 was dissimilar compared with his peers. His charges were 146% greater and his average length of stay 125% longer than the average of Overlook's 24 surgeons performing hysterectomies. Since clinical decisions can only be made by clinicians, the performance information was referred to the Gynecological Surgical Department for analysis and action.

Questions have been raised regarding the clinical homogeneity of the DRG case classification scheme, that certain DRG's are not product specific, containing cases which are dissimilar relative to other cases in the group. DRG #355 is product specific since it excludes radical hysterectomies, patients over age seventy and those with co-morbid conditions or complications.

We implemented strategies to minimize complications of medical intervention. A complication is an illness, a diagnosis, generating additional services and costs. Complication-preventing activities are in reality risk management. The Quality Assurance Program includes strategies to identify and correct preventable complications not prevented.

Maximizing efficiency required the combined efforts of the clinical and administrative sectors to design measures to a) increase labor productivity, b) optimize the use of the hospital's resources and c) decrease the unit cost of a product (materials management).

Delays add days and dollars. Delays in scheduling diagnostic tests and operations, delays in referring the patient to Social Service or ordering and responding to consultations, prolongs the duration of stay. Time expended by nurses in tracking clinicians who write illegible and incomplete orders is inefficient use of their time.

Selecting the clinical product exhibiting the most favorable balance between benefit, risk and cost requires clinicians participation in the process. Our materials manager held a Swan-Ganz Catheter Fair, attended by clinicians and nurses who evaluated the wares exhibited by seven vendors.

A clinical materials management problem was identified in a production report of DRG #116, Implantation of Permanent Pacemaker. We incurred a product loss of $431 per case, attributable not to bed costs or the costs of diagnostic services, but to the costs of the pulse generator which ranged between $1,500 and $3,900. At a clinical meeting where the report was reviewed, it was apparent that our cardiologists and pacemaker surgeons were unaware of costs of the pulse generators they were selecting, unaware of the economic consequences of their clinical decisions. Although the discussion occurred early in the DRG era, clinicians were making patient management decisions as if we were still operating in a cost-based reimbursement environment where costs did not make a difference.

Maximize Revenue

Since hospital revenue is dependent upon the timely completion of a reliable medical record and discharge abstract, collaboration and cooperation between the clinicians and the Medical Records Department was a high priority. To assure a valid DRG assignment for each patient we:

- Established a policy that the Medical Records Department is responsible and accountable for a reliable discharge abstract and has the authority to modify clinician defined diagnoses and procedures.
- Medical Staff established a policy that the face sheet of the medical record shall be completed at time of the patient's discharge.
- Enforced the policy - the medical record shall be completed within 15 days of discharge.
- Monitored both clinicians and abstract-coders performance.

Outcome

We have been married to DRG's for almost four years. Are we a more effective and efficient hospital? What behavioral changes have occurred that affect the quality of care?

- There is no valid and reliable data to demonstrate a change in our ability to provide necessary routine (bed), diagnostic or therapeutic services. No programs or services, including the losers, have been eliminated. Patients have not been discharged prematurely.
- Likewise, we cannot demonstrate cost savings as the result of the elimination of unnecessary days or unnecessary ancillary services.
- Cardiologists are aware of the costs of pulse generators but continue to order the most expensive type. However, the Director of Cardiology has become a skillful entrepreneur in making contractual arrangements with vendors.
- Documentation - medical records are completed in a more timely manner and abstract/coders have achieved a level of coding accuracy and DRG assignment validity approaching "excellence".

Have hospital administrators changed their patient management behavior? Periodicals are repleat with projections that administrators will misuse resource use data by making patient management decisions without sufficient review by the clinical sector; that administrators will:

- Eliminate necessary services.
- Force clinicians to discharge their patients prematurely.
- Restrict or terminate the clinical privileges of clinicians who they "cannot afford".

The purpose of resource use data is to identify potential patient care problems, to identify areas and cases for analysis and corrective action by responsible parties. To my knowledge, administrators have not misused this information.

But the greatest change attributable to the DRG payment system is a change in attitude. "Because of price", the Hyperalimentation Committee selected the least costly intralipid solution. Consideration of cost was unknown and unnecessary in the pre-DRG era. The element of cost has been incorporated into the patient management decision-making process. Members of the Pharmacy and Therapeutics Committee -clinicians, nurses, pharmacists and epidemiologists - after reviewing clinical data (benefit and risk) and cost data, selected Gentamycin as the drug of choice. The decision incorporated benefit, risk and cost, it was not based solely on cost. Price sensitivity and cost consciousness prevails throughout the institution.

An article in the Harvard Business Review, "Quality on the Line", analyzed the air conditioner industry, comparing nine U.S. companies with seven Japanese. Japanese manufacturers vastly outperformed their American competitors in quality. Quality was the top priority in contrast to the American firms in which quality came second to meeting production goals. The author concluded that management makes the difference. Radical changes in the method of paying hospitals has placed "quality on the line" for all of us.

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MEDICAL REVIEW UNDER THE PROSPECTIVE PAYMENT SYSTEM

Philip Nathanson, Health Care Financing Administration

I am happy to have the opportunity to discuss with you today the impact of the Prospective Payment System (PPS) on the quality of care provided to Medicare beneficiaries and the Health Care Financing Administration's medical review strategy.

Introduction

Medical review has been performed for many years under the Medicare cost reimbursement system to assure that care rendered to beneficiaries is appropriate, necessary, and meets professionally recognized standards of care. It is a special Health Care Financing Administration (HCFA) priority under PPS.

The Congress recognized that PPS contains its own concern about "gaming" the system. In that regard, Congress specified that we address the validity of diagnosis-related group (DRG) assignments, the appropriateness of admissions and readmissions (including outliers), and maintenance of quality of care. HCFA's medical review strategy is built around those concerns and our desire to assure that adequate payment safeguards are included in the PPS system.

Quality of care under PPS

Our concern to maintain and improve the quality of care under the PPS began over a decade ago when Congress first authorized State demonstration projects to test prospective payment. A major evaluation of State prospective payment demonstration projects (including an impact study on quality of care) was conducted over a 6-year period. This study involved 670,000 Medicare patients in 2,700 hospitals. Many aspects of quality care were examined including:

- Provision of ancillary services.
- Scope of services.
- Morbidity and mortality rates.
- Readmission rates.

The preliminary analysis has demonstrated that the quality of care did not diminish in these demonstrations.

We believe that the PPS will, over time, enhance the quality of care provided to PPS Medicare beneficiaries. The PPS offers hospitals a strong incentive to specialize in the procedures each does best, because high volume procedures are the most cost effective. And, we predict that, under PPS, procedures currently performed in low volume by many hospitals will become the high volume procedures of a few hospitals.

As hospitals specialize, the quality of care would improve because medical teams involved in high volume procedures achieve optimum proficiency in the clinical skills involved. This will result in fewer post-procedure mortalities and complications.

Under PPS, certain unnecessary services, some of which would not improve patient health, might be eliminated as hospitals and physicians have strong incentives to provide care more efficiently. For example:

- As patients are discharged more promptly, the danger of contracting hospital-based infections will decrease.

- When questionable surgery is forestalled, surgical risks will be lower.

- When medications are prescribed more discretely, the dangers of side effects or pharmacologic overkill will decline.

Quality safeguards will still be needed

Despite the presence of the long-term incentives towards enhanced quality care, PPS does present unique short-term temptations to "cut corners" and thereby affect the quality of care. There are four main areas that must be addressed:

- Admission of patients unnecessarily.

- Shifts of patients from hospital to hospital, or to exempt units within a hospital, in order to maximize payment.

- Discharge of patients prematurely.

- Reduction in the quality of care.

The strategy

In order to address these concerns, we have developed prescriptive medical review procedures. The Professional Standards Review Organizations (PSROs) and fiscal intermediaries (in areas where there is no PSRO) have begun to implement the HCFA instructions covering medical review. Peer Review Organizations (PROs) will perform similar reviews when they become operational by October 1, 1984. These medical review areas are:

- Admissions (including transfers, readmissions, and admission pattern monitoring).

- Outliers (both day and cost).

- Invasive diagnostic and therapeutic procedures.

- DRG validation.

- Quality.

Overall, medical review agents will look at approximately 25 percent of the total cases. When inappropriate admissions or unnecessary procedures are identified, payment denials or adjustments will be made. The waiver of liability provisions will apply to all denials made as a result of medical review (except DRG validation).

Admission review

Admission review is crucial to successful implementation of PPS because a finding that an admission is medically necessary and covered leads to a full DRG payment. That is, we will not "carve out" days based on overutilization, except in an outlier case. If the admission is found to be inappropriate, the hospital will not receive the DRG payment.

Admission review can be performed on a prepayment or postpayment basis and includes:

- A 5 percent sample plus all cases under review for other reasons (e.g., outlier reviews, procedure review).
- All transfers to PPS-exempt psychiatric units where the diagnostic code reflects a non-psychiatric condition, plus 10 percent of valid psychiatric codes.
- All transfers to PPS-exempt rehabilitation units, PPS-exempt swing beds, hospital-based skilled nursing facilities, and any other acute care hospital.
- All admissions within seven days of discharge from an acute facility where the intermediary or PSRO is the same for both providers.

Admission pattern monitoring is also part of the admission review process. It involves the identification of any unusual changes in a hospital's volume of admissions, its case-mix, or its total reimbursement and discharge status, and an analysis of the cause of the aberrant admission pattern.

Outlier review

Review of both day and cost outliers must be conducted on a prepayment basis. (The New Jersey system includes low trim point outliers - Medicare PPS only looks at days and costs which are substantially above the average for a particular DRG.) A case can never be both a day and a cost outlier.

Under Medicare PPS, day outliers will occur where the number of covered days in a stay exceeds the average length of stay for discharge in the DRG by 20 days or 1.94 standard deviations (the outlier threshold) whichever is lesser. The medical review agent will review each case which meets the day outlier criteria. Additional payment for day outliers is automatic unless medical review of the case reveals that some or all the additional days should not be covered. The payment for additional days will be at 60 percent of the DRG per diem rate.

The medical review agent may take three possible actions in reviewing day outliers:

- If the admission is not justified, no payment is made.
- If days between admission and the outlier threshold are not justified, they will be "carved out" from the number of days used to arrive at the day outlier status.
- If days after the outlier threshold are not justified, they will be denied.

Days awaiting placement will be paid at the outlier rate if medical review finds them medically necessary and appropriate.

A cost outlier will occur where charges exceed the regional DRG rate by 1.5 times or $12,000, whichever is greater. Payment for cost outliers will be based on 60 percent of the difference between the cost (adjusted to charges) of the discharge and the threshold amount.

Payment for cost outliers is not automatic. Hospitals must request cost outlier payments. A medical review will be conducted on each cost outlier case. If, as a result of the cost outlier medical review, the medical review agent determines:

- That the admission is not justified, no payment will be made.
- That particular services are not justified, they will be "carved out" from the amount of charges used to reach the cost outlier status.

Invasive diagnostic and therapeutic procedures

The performance of invasive diagnostic and therapeutic procedures may affect DRG classifications, thus leading to increased reimbursement. At a minimum, medical review agents will review every pacemaker claim to assure that the procedure is medically necessary and appropriate. HCFA has issued extensive medically approved criteria to be used by intermediaries in reviewing these claims. We have also asked medical review agents to identify other procedures which lend themselves to intensive review. If the procedure is found to be not medically necessary, denial will be made.

DRG validation

DRG validation is performed in addition to previously mentioned reviews. This review will assure that the diagnostic and procedural information that led to DRG assignment are substantiated by the medical record and that treatment and diagnostic studies "match" the principal diagnosis. The regulations provide that the attending physician must attest to diagnostic and procedural information used in assigning DRGs.

The medical review agent must conduct DRG validation at least quarterly in cases under review for other reasons and on a random sample of assignments (5 percent). The review will be done at the provider site by a nurse with experience in coding or by a medical records administrator. If the principal diagnosis listed by the physician is questioned, the physician advisor/reviewer rather than the nurse will make the determination. If a coding change results in a change in the DRG assignment, reimbursement will be adjusted to reflect the appropriate DRG assignment.

Quality review

Quality review will be performed primarily by PSROs/PROs. The fiscal intermediaries, although not doing quality review per se, can identify quality problems through other reviews (for example, admissions within seven days of discharge from any acute facility). Quality review is aimed at detecting:

- Underutilization of services (inappropriate premature discharges).
- Overutilization of services (e.g., cost outliers).
- Pingponging of patients (transfers).

Corrective actions

Corrective action will be initiated where medical review agents identify repeated abuses of the PPS system or where significant problems are identified. Corrective action activities include, but are not limited to:

- Educational activities.
- Intensified review (by hospital, diagnosis, physician).
- Preadmission review.
- Rebuttal of waiver.
- Sanctions.
- Civil monetary penalties.

Pros - how are they different

The system I've just described is currently being implemented by PSROs and FIs where there is no PSRO. Its basic review concepts will be carried over into PRO review. Any entity can bid for PRO contracts, including for-profit organizations. The PRO contract will establish a business-like relationship with definitive expectations spelled out in the scope of work. The emphasis will be on achieving concrete, measurable objectives. The admission objectives will be very important as admissions drive the system. Quality objectives will also have increased importance. We believe that the effective implementation of the PRO system is a crucial safeguard to appropriate payment under PPS.

PRO contracting

HCFA must award all PRO contracts by October 1, 1984. The contracts will be fixed-price. This will allow the contractor to budget monies correctly, and HCFA will know "up-front" what the review costs will be. The contracts will require the achievement of performance based objectives, and HCFA will monitor PRO performance with regard to both the process and the quality of performance. Specifically, HCFA will assess PRO progress in the following areas:

- Dollar savings.
- Ability to influence overall admissions.
- Quality review.
- Sanctions.
- Other agreed upon objectives.

Impact on hospital-based medical practice

Although PROs will be the cutting edge of the medical review effort, they will not be alone. They will get a variety of supportive assistance from HCFA. What's more, hospitals themselves will be undertaking what we trust will be vigorous efforts to enlist house physicians and medical staffs in cost-containment and quality assurance work.

PROs will be assisted by much more highly developed data gathering and records keeping machinery in hospitals. We envision hospitals developing systems that will integrate clinical and budgetary data out of which will emerge a budgeting system that takes clinical costs into account.

Hospitals can use this kind of information to educate their medical staffs on the budgetary consequences of physicians' ordering practices. The same kind of information can be used to learn more about the clinical efficacy of different treatment modes and to keep an eye on the hospital's case mix.

Internal peer review will also get a boost. Hospital managers may ask committees of physicians to convene and look at the cost profiles of each physician. One can easily envision clinical cost audits that will let each physician know how much their typical treatment plan costs compared to that of their colleagues. Indeed, one can also picture a day when physicians with chronically expensive practice modes will find it increasingly difficult to obtain hospital privileges.

I hope that this overview of medical review under the PPS has been informative.

INTEGRATING DRG SYSTEMS WITH QUALITY ASSURANCE

Rosemary T. Weiner, HUMANAMETHODS, INC.

Introduction

DRG prospective pricing and reimbursement presents an interesting challenge to all Quality Assurance Professionals. The prospective pricing legislation has set forth Quality Assurance objectives which amplify all current and past utilization legislation. Together with the goal of reducing the overall utilization of inpatient care services, the legislation has clearly been designed to protect and promote the quality of health care services rendered to Medicare recipients.

We are faced with a legislative mandate to promote healthcare delivery systems which nurture health care delivery settings which are less costly than the inpatient acute-care mode. In addition, we must identify and modify health care practice patterns having an adverse impact with respect to cost, morbidity, and mortality.

It has been long been the contention of our legislative leaders that inappropriate and less than adequate medical care have been the major contributing factors to the escalating cost of health care. To that end, recent legislation and subsequent regulations have targeted the review and evaluation of the quality of medical care as an area of focus. Historical data, future data bases and profiles will be utilized to monitor admission rates, unnecessary surgery, unnecessary invasive procedures, and morbidity and mortality rates.

The Quality Assurance Professional must be fully prepared to respond to the data generated by the DRG system and to utilize the data in a constructive manner. Moreover, where practice patterns are less than adequate, we must be able to document and demonstrate positive practice modifications. This is the test of the adequacy and effectiveness of hospital Quality Assurance programs. We will be measured in terms of our actual impact on patient care and health care provision patterns.

DRG-oriented UR and QA

The role of the patient advocate is generic to the role of the Quality Assurance Professional. This role encompasses monitoring predetermined patient care indicators in order to focus on compromised patient care. When DRG and fiscal data are added to the other patient care indicators, patient care information is enhanced. DRG data which indicate aberrant patient care must be reviewed and evaluated with respect to the appropriateness of the care and services rendered. The scope of this work lies with the established mechanisms for medical care evaluation. That is to say, the peer review process entrenched in credible Quality Assurance programs must be integrated into any DRG management system.

DRG orientation to utilization review and medical care evaluation has given an added dimension to both programs. The intervention required for fiscal solvency of the hospital and the J.C.A.H. standards for both of these areas are clearly aligned with the current DRG/PSO legislative objectives. Hospitals and medical staffs have had to be prudent in their utilization of certain services and types of intervention in order to achieve the cost saving potential under DRG pricing. Where variant DRG data has led to in-depth review and evaluation, impact-oriented intervention and practice pattern modification have had to be developed. Demonstrating impact with positive improvements in patient care is the benchmark for J.C.A.H. approved Quality Assurance programs.

Fiscal information (i.e., DRG management information by Major Diagnostic Category, by DRG or by physician) should be utilized as patient care indicators in all Quality Assurance programs. It should be noted that such information must be subjected to both an administrative review and a medical care evaluation process. The conduct of parallel analysis will serve to elicit appropriate cause and attribution for perceived problem areas. The role of the Quality Assurance program is to determine if the medical practice patterns within the DRG problem area are prudent and justified and meet accepted standards of care. The purpose of the administrative review is to determine the degree of cost effectiveness for delivery of services found to be prudent and medically necessary. Without this parallel review process, variant DRG data will be interpreted as overutilization only, and intervention plans will focus on reducing utilization without regard for the overall impact on the quality of care or patient outcomes.

The DRG information analysis process described above constitutes a significant mission for Quality Assurance Professionals. Not only must we access DRG data, but we must also develop mechanisms for assigning intervention accountability. It is essential that Quality Assurance professionals be utilized as key personnel in the DRG management system, and that decisions be made with respect to which DRG monitoring reports will be utilized as patient care indicators for the Quality Assurance programs.

Problematic DRGs and case-specific review

In addition to the use of aggregate DRG data as a patient care monitor, DRG-directed review and evaluation may be made on a per case basis, utilizing the DRG assignment as a generic screen. There are approximately thirty-eight (38) DRGs which tend to be ancillary and diagnostic intensive, while displaying a low level of therapeutic intervention. These same DRGs have also been assigned low financial significance factors, and are, therefore, most likely to create the highest negative operating margins or the greatest financial losses.

The cases assigned to this category of DRGs have other similar characteristics in addition to their potential for financial disincentives. The most common denominator is the final diagnosis assigned by the attending physician. The recorded diagnosis is usually a manifestation of an underlying condition. By omission, either on the part of the physician or the medical record coder/analyzer, the patient is grouped into a financially lower-weighted DRG than is indicated by the medical occurrences documented in the patient record. The latter circumstance is indicative of a coding procedural error, while the former, physician omission, deserves a review and evaluation of the case. This type of case must be subjected to the peer review process. The case should be evaluated in terms of the adequacy of the clinical workups performed, the validity of the clinician's conclusion and the appropriateness of the clinical workups being performed on an inpatient vs. outpatient basis. The outcome of these reviews are very productive in terms of eliciting unnecessary diagnostic admissions, inadequate or incomplete clinical investigation of patient symptomatology, inadequate or inappropriate therapeutic intervention, poor articulation when summarizing the patient's hospital course and discharge status, and lack of follow-up for abnormal clinical or diagnostic findings.

As we can see, this type of review process satisfies many objectives including review of the appropriateness of inpatient hospital admission, ancillary services review and a medical care evaluation of the quality of care rendered. It is imperative that the review results be documented in such a way as to demonstrate patterns of care by practitioner, by DRG, by clinical family and by Major Diagnostic Category. Predominant patterns for individuals should be targeted for intervention according to the type of problem elicited. Pre- and post- intervention DRG volume data will quantify the intervention effectiveness and should be utilized to demonstrate measurable impact.

Medical care evaluation standards

In order to perform a review of this category of DRG/Quality Assurance problems, clinically valid criteria and standards of care must be applied. We have now come to the second mission for Quality Assurance Professionals, that is, to provide medical care evaluation standards by which review decisions may be made. Criteria development is an ongoing process; and within the context of a DRG management system, it becomes a critical work focus for Quality Assurance programs. This does not mean that there must be in place a set of standards applicable for every diagnosis. It does mean, however, that there must be a methodological development of standards for major areas of concern.

At a minimum, Quality Assurance and Utilization Review Professionals should collaborate in the development of a set of clinical indicators for the review and justification of inpatient hospitalization. An excellent starting point is to develop criteria sets for each of the 23 Major Diagnostic Categories. By virtue of the MDCs being organ and system oriented, they should provide a simple, systematic approach to categorizing patient admission type. A more sophisticated approach is to utilize clinical families, which are subgroups within each Major Diagnostic Category.

Clinical indicators for invasive diagnostic procedures should also be given highest priority for development. Reduction in the number of unnecessary invasive procedures is one of the legislative objectives and should be embraced as a Quality Assurance objective for hospitals. Invasive diagnostic procedures with a high rate of actual or potential morbidity and mortality need to be identified. Clinical indicator screens should be applied to every case where the targeted procedures were or are to be performed. This type of review and evaluation is another example where legislative, fiscal, and Quality Assurance objectives are synchronized. Simply stated, if practice pattern intervention is indicated, implemented and effective, there will be a reduction in the number of admissions for invasive diagnostic procedures, a reduction in adverse outcomes related to the procedure, and a reduction in the cost per case where the invasive procedure was predominant.

Monitoring ancillary resource use and admission review

Much of the DRG management information is focused on the degree of therapeutic and diagnostic utilization or intervention. Reports such as displays of ancillary services usage can, and should, be included as another patient care indicator. The absence of certain critical resources (under-utilization) may be indicative of compromised patient care and should be reviewed for appropriateness. Omission of critical diagnostic or therapeutic services needs to be evaluated in terms of attibution toward morbidity, mortality, readmission and other adverse outcomes.

Conversely, the appearance of services within certain cost revenue centers (such as blood or antibiotics), where their usage is not anticipated for a given disease entity, should be subjected to a review and evaluation of the medical and surgical occurrences throughout the hospital stay.

Because of the concern that certain critical services may be denied due to fiscal motivators, and as a consequence, readmission rates will escalate, a method for identifying and evaluating readmissions must be developed.

Admission review and certification of the medical necessity for inpatient hospitalization are functions of the Utilization Review program. However, it is at this juncture that a strong link with Quality Assurance must be established. Part of the admission review process should include the identification of readmissions. The Quality Assurance mechanisms for review and evaluation must then be applied in order to ascertain the cause and attribution for the readmission. Together with the indicators previously described, an evaluation of the adequacy of the discharge plan must be made. The interaction and relationships between and among Quality Assurance Professionals, Utilization Reviewers and Discharge Planners have become paramount because of the review focus projected for the problem of readmissions. This renewed emphasis on discharge planning has shifted the focus from its relationship to length of stay to the relationship with the quality of care and its impact with respect to readmissions, mortality and morbidity. Precipitous hospital discharges must be identified and reduced if the quality of patient care is to be protected. Evaluations and activity reports for discharge planning need to be included as another patient care indicator of the Quality Assurance program; and discharge planning for each patient needs to be thoroughly documented in the patient record.

Retrospective review

Surgical case review and tissue review are another link to the legislative objectives under DRG prospective pricing. Both of these review processes monitor the levels of unnecessary surgery and are not new patient care indicators. They remain in place as an effective means for evaluating the appropriatness of surgical intervention. However, documentation of the results of these reviews has been less than adequate in the past. Quality Assurance Professionals will need to fine tune this and other documentation procedures if we are to demonstrate that surgical intervention rates are appropriate or that unacceptable rates have been reduced.

Another type of retrospective review which is generated by utilizing the DRG assignment as a generic screen is the review of cases that are grouped into DRGs allotted for adverse outcomes. There are approximately 32 DRGs which fit this classification and merit a review and evaluation of the current and/or previous hospital admissions, e.g., cases grouped into DRG 418 have a final diagnosis of postoperative or postraumatic infection and DRGs 452 and 453 contain cases with complications arising from previous treatment.

The types of reviews addressed thus far have essentially been targeted for retrospective review and have been generated by historical data. Carefully orchestrated analysis and interventions can be derived from DRG-generated data; and this has a major potential for Quality Assurance program enhancements. The need for historical data and profiling of practice patterns has been intensified by the legislative objective for documenting and measuring impact with respect to utilization rates, surgical rates, cost, morbidity and mortality. It is clear that the bond between DRG prospective pricing and Quality Assurance has been sealed. Truly effective hospital Quality Assurance programs are the administrative vechicles for fiscal solvency; and at the same time, they are monitors and safeguards to adverse impacts of DRG prospective pricing. This challenging role cannot be fulfilled by retrospective review and evaluation alone, but must also be integrated with the ability to concurrently evaluate and intervene.

Pre-event intervention and occurrence screening

All of the previously described review methods should be utilized to identify and prioritize areas targeted for concurrent or pre-event intervention. This type of intervention is the true test of the effectiveness of a Quality Assurance program and is surely the genesis of patient advocacy. In addition to the use of historical data as a basis for identifying events or patient populations to be screened and reviewed prospectively or concurrently, we may also utilize occurrence screens. Occurrence screening is an established risk management indicator which can be applied to DRG systems with respect to cost and resources management. Pre-established occurrence screens such as the unplanned transfer of a patient from a general medical or surgical unit to an intensive care unit should trigger a peer review of the case situation. Prevention or limitation of case mismanagement is the primary goal of concurrent intervention, and minimizes the adverse impact with respect to patient outcome and related case costs. In order to be concurrently effective, Quality Assurance mechanisms need to be succinct, action-oriented and generated by expeditious peer review. This requires a high level of rapport and collaboration between and among concurrent reviewers for Quality Assurance, Utilization Reviewers, and the primary providers of patient care, the nurse.

Nursing service personnel need to be drafted and integrated into the concurrent identification and intervention process. This is the pivotal point where DRG cost incentives and Quality Assurance objectives mesh. It is here that concurrent monitoring of resource consumption occurs and can be controlled. Nursing input and documentation are some of the mechanisms utilized in assessing patient therapy response. They are often the first providers with information regarding inadequacies of intervention or variant patient care. Quality Assurance programs must include these professionals in their program network if they are to develop the ability to implement concurrent review and evaluation.

Concurrent and pre-event intervention are the key tools to developing quality of care safeguards and for achieving cost incentives under DRG prospective pricing. Unnecessary and duplicative diagnostic workups must be curtailed. This involves more than a monitoring process at the nursing service level; there must also be clinical indicators developed at the level where ancillary services are delivered. Quality Assurance review and evaluation techniques within all ancillary departments need to focus on the appropriateness and effectiveness of the services rendered. Diagnostic sequencing is fruitful for the review and evaluation of such areas as the laboratory, radiology, and nuclear medicine departments. Together with quality control mechanisms for identifying duplicative and redundant service provision, strategies may be developed for reducing the incidence of such things as unnecessary daily lab work, duplicate requisitions for service delivery, and provision of secondary services not indicated by prior clinical testing results.

Summary

The complete portfolio of Quality Assurance program elements needs to be active and effective if hospitals are to survive within the DRG prospective pricing environment. The Quality Assurance program must be effective hospital-wide; and there must be a heightened awareness of the relationships between the program and DRG/PRO legislative objectives. Adversarial and conflicicting goals may be real or mythical depending upon the extent to which Quality Assurance programs have achieved demonstrable impact prior to legislative mandates to do so. As a precursor to implementation of DRG prospective pricing, Quality Assurance Professionals should perform an inventory of all issues addressed by their programs to date. The issues or problems should be critically assessed in terms of practice pattern modifications. Actual impact (pre- and post- intervention data) should be listed in order to document real impact vs. theoretical improvements in patient care, and reductions in morbidity and mortality. "Paper shuffling" programs will quickly be identified by this process and can be predicted to have an adverse impact on the implementation of DRG prospective pricing within the hospital. Successful implementation depends upon the depth and scope of integration of the Quality Assurance program activities into the hospital-wide network of review and evaluation, intervention and education.

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IMPLEMENTING DRG IN THE HOSPITAL

by Frank A. Miles - St. Mary Hospital, Hoboken, NJ

There are basicaly four ways of implementing Diagnosis Related Groups (DRGs) within a hospital; use one of the shared data processing services, utilize the standard DRG Grouper package, purchase a computer system which includes DRG programs, or develop the necessary DRG programs to run on an existing hospital computer. The shared service approach is unsatisfactory unless the hospital is already using the service for other data processing needs. The standard grouper can only be used on an IBM machine running under the OS operating system. For the many hospitals with their own non IBM computer system, purchasing another computer system is not practical, which leaves the fourth option as the only real alternative.

This paper describes the requirements for developing a DRG system to run on an existing hospital computer, although many of the considerations also apply to the other methods of implementing DRGs. It details the input data that must be collected to group a patient into the applicable DRG, describes the requirements for developing the DRG Grouper programs and associated tables, specifies the output data that should be provided by the grouper, and describes some useful analysis reports.

Input Data Required For Grouping

Grouping of a patient into the applicable DRG is based on clinical data relating to the patient's case. One or more of the following data elements are used in the grouping process, depending upon the particular DRG category.

- PRIMARY DIAGNOSIS ICD-9 CODE - Used to determine the initial Major Diagnostic Category (MDC).
- SECONDARY DIAGNOSIS ICD-9 CODES - Up to eight secondaries may be specified.
- PROCEDURE ICD-9 CODES - Up to eight procedures may be specified.
- PATIENT AGE - In years at date of admission.
- PATIENT SEX
- DISCHARGE TYPE
- LENGTH OF STAY - In days, for determining Inlier/Outlier status.

All of this data must be captured and validated before grouping can take place. Since it is all included in the Medical Abstracting performed by most hospitals, if this is already processed on a computer, then the abstract data can be accessed by the grouper programs. Otherwise, the data must be collected from the medical chart and input to the computer.

Whatever method of input is utilized, it is essential that all data be validated on input to ensure accurate grouping. If the age is calculated from the patient's birth date, allowance must be made for patients born in the last century. Age and sex should be input before, or at the same time as, the diagnosis and procedure codes, since many of the codes are age or sex specific. The diagnosis and procedure ICD-9 codes should then be checked against an internal table (see Tables section below) which includes age/sex specific indicators. Some diagnosis codes are also restricted as primary only, secondary only, or are invalid for DRG grouping.

Tables Required For DRG Grouping

There are three major tables required in the computer system to support a DRG Grouper program; an ICD-9 table, an MDC/DRG table, and a Grouper driver table, as described below.

a. ICD-9 Diagnosis & Procedures Table

This table should include all possible ICD-9 Diagnosis and Procedure codes that can be used for grouping, with the full code and an abreviated description. To assist in validating input data and grouping, the table should also include the following special indicators where applicable.

- Sex Specific indicators with the applicable sex code.
- Age Specific indicators with the applicable age range.
- Primary Diagnosis Restricted indicators.
- Secondary Diagnosis Restricted indicators.
- Complication/Comorbidity Diagnosis indicators.
- Operation Procedures indicators.
- Invalid for DRG Grouping indicators.
- Major Diagnostic Category (MDC) Number for all Diagnoses.

b. MDC/DRG Table

This table should include all the DRG information required for output after a patient's DRG has been determined, including the following items.

- Major Diagnostic Category # (MDC)
- DRG Number.
- Brief Description of the DRG.
- Low and High Outlier Trim Points.
- Base Rate for the DRG.

If a header description is included in the table for each of the Major Diagnostic Categories, then the table can be used to produce handy DRG reference directories for appropriate hospital staff.

c. Grouper Driver Table

One of the most efficient and flexible methods of designing a computerized Grouper is as a table driven program or sub-routine. The driver table must include all the sub-sets of diagnosis and procedure codes, sex, age and discharge-type restrictions, and any complication/-comorbidity requirements for each DRG. The contents and sequence of the table must also precisely follow the order of testing specified, for correct grouping.

If the MDC numbers are included in the ICD-9 Table, then the sets of primary diagnosis codes included in each MDC can be eliminated from this grouper table. This will make the table more compact and simplify grouping.

If the codes in each sub-section of the table are maintained in ascending sequence, it will make the checking of the applicable input data more efficient.

For computer systems with limited main processor memory, it will be advantageous to split this grouper table into twenty three separate tables, one for each MDC. The required MDC grouper table can then be loaded as an overlay, depending on the MDC for the patient's primary diagnosis.

DRG Grouper Development

There are many approaches that can be taken in developing a Grouper program and the choice of method and programming language will depend upon many factors. However, the following factors should be considered in the system design.

a. Efficiency - Since the program, or sub-routine, will be used for grouping every patient and for many other test purposes, the routine should be made as efficient as possible. Several techniques can be employed to assist in this.

If the MDC # is extracted from the ICD-9 Table and stored when the Primary Diagnosis is validated on initial input, the applicable MDC section of the Grouper Table can be accessed directly without first scanning multiple lists of the diagnoses in each MDC.

Since all secondary diagnoses and all procedures must be checked to determine if they are included in any applicable sub-section of the Grouper Table, if they are each sorted into ascending sequence before grouping takes place, the checking of the input data against the Grouper Table can be achieved in one pass.

If information on whether any of the input secondary diagnoses are Complication/Comorbidity diagnoses and whether any of the input procedures are Operation Procedures, is extracted from the ICD-9 Table and stored when this data is validated on initial input, this will eliminate the necessity of looking-up this information during grouping.

b. Memory Size - The complete Grouper Table as supplied in the standard package occupies 90K bytes of main memory, in addition to any grouper program. Many computer systems have limited main memory and it will be impossible to store the entire Grouper Table in memory at one time. However, it is more efficient to scan the applicable section of the table in main memory rather than on disc storage. Since the table is naturaly segmented by MDC, which is determined from the primary diagnosis, memory can be conserved by segmenting the Table into the twenty three MDC segments and loading the applicable segment as required. With this method, the table and grouper sub-routine should take less than 10k bytes.

c. Flexibility - Since modifications and/or corrections to the Grouper are issued from time-to-time, it is essential that the grouper design is flexible enough to accept these changes without complete reprogramming. A table driven grouper, as discussed in this paper, will provide the flexibility to incorporate the majority of changes.

d. Sub-Routine - The Grouper program should be designed as a subroutine that can be called by any main program, since it is inevitable that grouping will eventualy be required in many programs.

e. Errors - If the Input Data was completely verified on initial input and the grouper sub-routine was programmed correctly, there should not be any grouping error conditions. However, it is good practice to allow for possible errors and provide facilities to pass error codes back to the calling program if a grouping or system error occurs.

Grouper Output

In addition to giving the applicable DRG and the Inlier/Outlier status, the Grouper routine should also provide details on which Input Data Elements were used for determining the particular DRG. This feature is particularly useful when testing the effects of various secondary diagnoses, procedures or other input data elements on the grouping. The grouper output should include the following items.

- Major Diagnostic Category (MDC).
- Diagnosis Related Group (DRG).
- Inlier/Outlier Status, with the Trim Points.
- DRG Base Rate and/or Billing Rate for the case.
- Primary Diagnosis ICD-9 Code.
- ICD-9 Code of any Secondary Diagnosis used in grouping.
- ICD-9 Code of any Complication/ Comorbidity Diagnosis used in grouping.
- ICD-9 Code of any Operation Procedure used in grouping.
- ICD-9 Code of any Other Procedure used in grouping.
- Patient Age if used in grouping.
- Patient Sex if used in grouping.
- Discharge Type if used in grouping.

This output data can be gathered very easily during the grouping process and passed back to the calling program in a table.

DRG Analysis

Once DRG has been implemented in the Hospital, it is essential to analyse the effects of DRG on hospital operations in order to maximise the benefits that can be realised. Perhaps for the first time, implementation of DRG will provide the hospital with a simple way of analysing the utilisation of resources by different categories of patient, the efficiency of the hospital in treating various diseases as compared with other institutions, and the utilization of resources by different physicians. There are any number of different analyses that can be performed on a Patient DRG Data Base to assist management in controlling hospital operations. A few of the more useful analysis reports are described below.

a. Comparison of DRG Reimbursement Rate to Charges by DRG. This will indicate those patient categories where excessive resources are being utilized.

b. Comparison of charges (either in total or by service) by Physician within each DRG. This will indicate those physicians who may be over utilising resources in comparison with others.

c. Profile of the Average Charges by Service for each DRG. This will only be meaningful for those DRGs where there are sufficient cases to provide a statisticaly valid average.

d. Analysis of the Number of Cases and the Number of Outliers by DRG for each Physician. This will provide a picture of the case load by physician and an indication of which physicians may have excessive lengths of stay.

e. Comparison of the Length of Stay by DRG over Time. This will indicate if the implementation of DRGs is having any effect on the efficiency of patient care.

In addition to these analysis reports, an On-Line DRG Look-Up program will be extremely useful in checking DRG groupings and for testing the effects of different input data elements on the DRG. Such a program will be useful in Admitting to assess the potential DRG (and Bill) for an incoming patient, in Medical Records for checking DRGs and resolving grouping questions, in Utilization for monitoring patient stays, and by Billing and Management. A sample CRT Terminal screen layout for such a DRG look-up program is given in Figure 1.

Conclusion

In conclusion, the requirements for implementing DRGs in the hospital may be summarized as follows.

- Arrange for the collection and verification of all input data required for DRG grouping of each inpatient.
- Prepare and install the required ICD-9 Diagnosis and Procedure Table, the MDC/DRG Table and an appropriate

Grouper Driver Table.

- Program and install a DRG Grouper Sub-Routine and the required access programs on the hospital computer system.
- Develop an On-line DRG Look-up program.
- Develop the required DRG analysis reports for management use.

With the appropriate staff to handle each of the above tasks, implementation of DRGs is not difficult and can provide the hospital with substantial benefits.

```
                          *** DRG LOOK-UP PROGRAM ***

*=*=*=*=*=*=*=*=*=*=*=*=*  DRG INPUT DATA  *=*=*=*=*=*=*=*=*=*=*=*=*
*                                                                   *
*   DIAGNOSIS: PRI [     ]  SECS [     ] [     ] [     ] [     ]    *
*                                [     ] [     ] [     ] [     ]    *
*                                                                   *
*   PROCEDURES: PRI [    ]  SECS [    ]  [    ]  [    ]  [    ]     *
*                                [    ]  [    ]  [    ]  [    ]     *
*                                                                   *
*   AGE: [   ] SEX (M/F): [ ]  DISCHARGE-CLASS: [  ]  LOS: [   ]    *
*                                                                   *
*=*=*=*=*=*=*=*=*=*=*=*  DRG GROUPER RESULT  *=*=*=*=*=*=*=*=*=*=*=*
*                                                                   *
*   MDC# [  ]  DRG# [   ]  OUTLIER [ ]<  :  >   RATE [  ,   . ]    *
*                                                                   *
*=*=*=*=*=*=*=*=*=*=*  DATA USED FOR GROUPING  *=*=*=*=*=*=*=*=*=*=*
*                                                                   *
*   DIAG: PRI [     ]  SEC [     ]  ANY [     ]  COMP/CO [     ]    *
*                                                                   *
*   PROC: OR [    ]  ANY [    ]   AGE: [   ]  SEX: [ ]  DIS: [  ]   *
*                                                                   *
*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*=*
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Figure 1. Sample Screen Format for DRG Look-up Program.

THE EFFECT OF DRGS ON DATA CONFIDENTIALITY AND SECURITY

John C. Parmigiani, Health Care Financing Administration

Each one of us is here at this conference to exchange our experiences and feelings regarding the use of diagnosis related groups (DRGs) in reimbursing hospitals. As you know, on September 1, 1983, the Medicare program, which is administered by the Health Care Financing Administration (HCFA), published an interim final rule for prospective payment for Medicare inpatient hospital services. Implementing this system will require a large amount of data processing, although not much more than that which is currently used for processing Medicare claims. Figures from fiscal year 1982 indicate that 40.2 million hospital claims were processed for that year with approximately $29.6 billion paid for inpatient hospital benefits. Such a large operation requires an immense amount of data exchange; therefore, much importance must be placed on the confidentiality and security of claims processing data.

I am here today to talk about confidentiality and security of data as they relate to HCFA's use of DRGs in Medicare's prospective payment system. Before I begin, I will briefly explain our hospital insurance claims processing operation. This will enable you to better understand the data exchange from the hospital to HCFA's Central Office files. Figure 1 illustrates this claims processing operation.

The Central Office health insurance claims processing operation provides current benefit and utilization information to fiscal intermediaries and monitors intermediary payment to hospitals. (A fiscal intermediary is a private insurance organization under contract with the Government to process and pay claims from hospitals, skilled nursing facilities, and home health agencies.) When a beneficiary is hospitalized, the hospital will notify its intermediary of the admission. The intermediary, in turn, will query HCFA Central Office via telecommunications to determine the beneficiary's eligibility and benefit status.

Upon receipt of an admission notification from the intermediary, HCFA will annotate its records and reply to the intermediary regarding the beneficiary's status. The intermediary will then notify the hospital of this status.

After discharging the patient, the hospital will send the intermediary the final bill. Based on the information contained in the bill the intermediary will certify payment to the hospital.

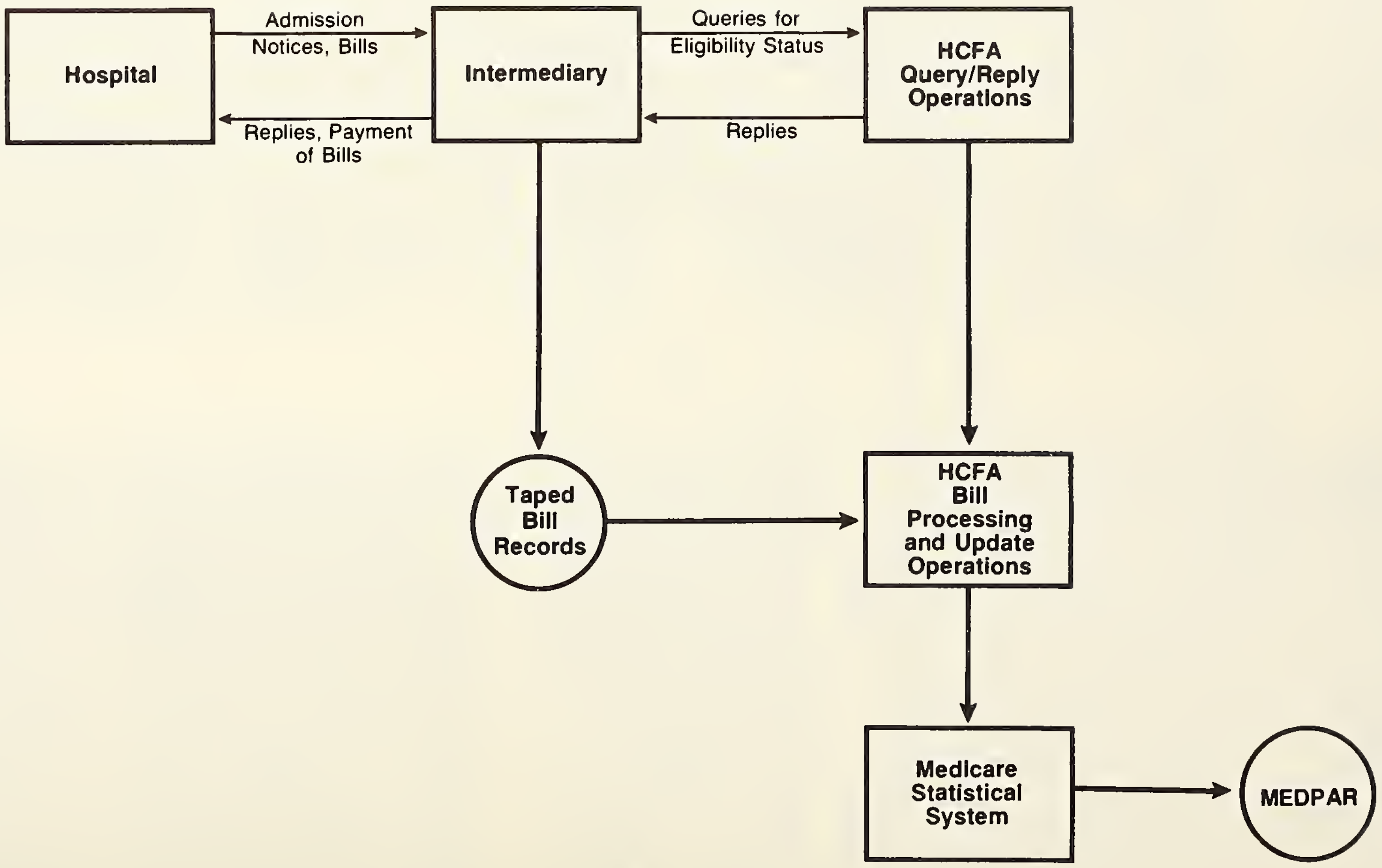
The intermediary then processes the information on the bill and forwards that information to HCFA Central Office on magnetic tape. With the picture in mind of data flowing between hospitals and HCFA through fiscal intermediaries, it will be easier to comprehend how confidentiality and security of data relate to this process.

With respect to confidentiality, HCFA must abide by the same rules that apply to all government agencies, i.e., those set forth by the Privacy Act of 1974, the Freedom of Information Act, and other miscellaneous legislation. These rules govern release of any information identifying beneficiaries, hospitals, physicians, etc. How does this have an impact on current Medicare prospective payment operations?

As HCFA is developing the new prospective payment system, we are receiving numerous questions on confidentiality. These questions have focused primarily on the Medicare Provider Analysis and Review file (that I will refer to as MEDPAR). This is a file derived from inpatient hospital bills and hospital identification information. Billing information received from the hospital via the intermediary enters into HCFA's Medicare Statistical System. Embedded within this system is the MEDPAR file. Information from the MEDPAR file, Medicare cost reports, and non-MEDPAR discharge records from Michigan and Maryland hospitals are used to calculate the weighting factors for each DRG.

MEDPAR data are also used in calculating the hospital's case-mix index used in implementing cost limit provisions established by the Tax Equity and Fiscal Responsibility Act of 1982. The case-mix reflects the relative cost of each hospital's combination of cases compared to the national average mix of cases. Each hospital's case-mix index is computed by multiplying the weighting factor for each DRG by the number of MEDPAR cases classified in that DRG and dividing that result by the hospital's total number of MEDPAR discharges.

FIGURE 1
Hospital Insurance Claims Process


Hospital
Admission Notices, Bills
Replies, Payment of Bills
Intermediary
Queries for Eligibility Status
Replies
HCFA Query/Reply Operations
Taped Bill Records
HCFA Bill Processing and Update Operations
Medicare Statistical System
MEDPAR

The MEDPAR file contains about 50 different data elements on each beneficiary. These elements include demographic data on beneficiaries, with identifiers; ancillary charge data; entitlement data; diagnostic and procedural data; etc. Since MEDPAR does contain individually identifiable confidential information, data in the file are protected by the Privacy Act and by the Freedom of Information exemption that permits denial of requests for release of records that would constitute a "clearly unwarranted invasion of personal privacy." Individually identifiable data from MEDPAR can be released to HCFA employees and contractors who need the information to perform their work duties. Also, a hospital may obtain MEDPAR data on its own patients. Our records show that over 650 hospitals have requested their own 1980 MEDPAR file and have paid more than $190,000 for the data ($300 per magnetic tape or $250 per computer printout). In addition, a public use tape which contains no identifiable data has been developed from the MEDPAR file that is available to any requestor for $750. Thus far, 3 of these public use tapes have been purchased.

To ensure that individuals cannot be identified from data on the public use tape, beneficiary names, addresses, residence location, and provider names are removed from the file. Metropolitan Statistical Area (MSA)/Non-MSA State codes for hospitals are given. Although other combinations of elements might have been omitted in developing the public use tape (e.g., a hospital name could have been furnished if the dates of the beneficiary's hospital admissions, surgical procedures, etc., were not disclosed) the elements included meet the needs of most requestors.

In addition to the aforementioned data releases, i.e., releases to personnel within the government who use the data to perform their jobs and those to the hospital that supplied the data, the Privacy Act also permits release of data containing individual identifiers for purposes that are compatible with the purposes for which the data were collected. These disclosures are called "routine uses." Under the "routine use" provision, HCFA releases data where appropriate to fiscal intermediaries, State agencies (which administer Medicaid), Professional Standards Review Organizations (which conduct Medicare's medical reviews), hospitals and the Department of Justice. Also, HCFA has developed and published, in the Federal Register, a "routine use" policy statement permitting disclosure of data, including data contained in MEDPAR, for health research, program evaluation and epidemiological projects that meet specified criteria. These criteria are designed to restrict disclosure to only projects providing benefits far outweighing the effect or possible effect on the privacy of the individuals involved. Only projects of widespread, long-lasting importance that are likely to achieve their objectives would qualify for disclosure of the individual identifiable data.

How does data privacy affect those entities involved in Medicare's claims processing operation, i.e., the hospitals, the medical review agents, the intermediaries, and HCFA? Since MEDPAR tapes contain a subset of data already contained in the hospital's medical files, and no other confidential data should be received by the hospital as a result of prospective payment, no new measures need to be taken at this time by the hospital with respect to confidentiality. However, care should be taken by hospitals to train staff and contractors in the proper use of the MEDPAR data if this training has not already taken place. MEDPAR data should be treated as confidential data since patient identities can be determined from the health insurance numbers on the tape or by deduction from the demographic and service information on the tape. Consideration should be given to ways to extend and adapt current privacy protection in hospitals to the changing circumstances under Medicare's prospective payment system.

The prospective payment regulations indicate that medical review agents, i.e., Peer Review Organizations (PROs), Professional Standard Review Organizations (PSROs), or fiscal intermediaries, will be involved in monitoring patterns of care to alert HCFA to trends dangerous to public health, identifying potential Medicare program abuses, and identifying misinterpretations of diagnostic coding. The Tax Equity and Fiscal Responsibility Act of 1982 contains specific provisions involving confidentiality of data handled by PROs. The Act exempts release of the data under the Freedom of Information Act. In addition, PRO personnel are subject to fines of up to $1000 and/or 6 months imprisonment for illegally releasing confidential data. Such penalties underscore the seriousness of the confidentiality issue.

With respect to Medicare's fiscal intermediaries, additional responsibility has been given to them to ensure that the prospective payment system is not manipulated by hospitals. The development and operation of edit screens to detect fraud and abuse may require more extensive access and manipulation of individual identifiable patient data by intermediary personnel. These screens will be exempt from release to the public. In addition, opinions expressed internally regarding the development of the prospective payment system are exempt from mandatory release under exemption (b)(5) of the Freedom of Information Act applying to inter/intra-agency memoranda. This includes all internal papers/correspondence between HCFA and its fiscal intermediaries. The exemption is intended to avoid obstructing free exchange and dialogue on matters of concern within an agency.

Now that we have briefly looked at the confidentiality of HCFA records, we can continue with a discussion of how data is protected at HCFA and how the prospective payment system will affect data security. OMB Circular A-71, Transmittal Memorandum No. 1 set forth broad systems security requirements that must be met by all government agencies. This circular defines the division of responsibility for computer security among the various involved government agencies. It establishes requirements for the development of management controls to safeguard personal, proprietary and other sensitive data in automated systems. Also, it establishes a requirement for agencies to implement a computer security program and defines a minimum set of controls to be incorporated into each agency's computer security program. In addition, the Privacy Act of 1974 sets forth rules for protecting the privacy of individuals identified in information systems maintained by Federal agencies. It requires the establishment of "appropriate administrative, technical, and physical safeguards to insure security and confidentiality of records and to protect against any anticipated threats or hazards to their security or integrity which could result in substantial harm, embarrassment, inconvenience, or unfairness to any individual on whom information is maintained."

The large number of technological advances in the computer environment has resulted in many changes in the way government agencies and private companies deal with computers. Large scale integrated circuitry has made microcomputers available to individuals and institutions that were unable to previously afford such equipment. Resource sharing systems and shared data bases are becoming more common. With these new technological factors. we need to consider ways of processing data on a more timely basis as well as maintaining the data so that it remains accurate and reliable. This requires effective management controls.

In developing these management controls, we must assess all threats to the data. Threats that exist as the result of individuals interacting with computers include:

- unauthorized access,
- mistakes,
- fraud,
- disgruntlement, and
- sabotage.

There are also threats of the environment or political atmosphere, such as:

- wars,
- fires,
- earthquakes,
- floods, and
- storms.

The first step in developing safeguards to protect a computer system against such threats is to determine the areas where the system is most vulnerable. Once defined and prioritized, identify protective steps for countering these threats, particularly those in the more vulnerable areas.

HCFA has developed numerous controls for protecting the data contained in its computers. In the vulnerable areas pertinent to physical security, it has developed access controls designed to prevent unauthorized entry into its systems. Also, control and monitoring systems have been established that alert HCFA to unauthorized attempts to obtain data.

The second area of potential vulnerability identified by HCFA involves protection of data files and programs maintained in the Medicare system. HCFA has developed back-up systems (in hard copy, duplicate magnetic tapes and disks) that are stored in remote sites in the event that the primary system is destroyed or damaged. In addition, HCFA has established detailed recovery procedures for re-creating any data lost from the primary system.

The third area of potential vulnerability involves administrative controls. We have implemented numerous policies and procedures regarding security of our systems. Guidelines have been developed that must be followed when using each of HCFA's data systems. The use of standards to access all HCFA systems has aided in controlling computer usage.

A type of control used by HCFA that can be used against all types of computer threats are periodic automated data processing (ADP) audits. These audits are unannounced and are performed by HCFA security personnel and, at times, by other Federal security personnel. The audits can identify large scale problems that are not identifiable by controls placed on individual systems.

I have described the general ADP system security program used by HCFA. How will DRG management and prospective payment affect this system security program? As you have seen, a systems security program is currently in place for all HCFA personnel and HCFA operations. The Medicare program also includes as part of its contracts with fiscal intermediaries and carriers (a carrier is a fiscal agent used in processing claims for Medicare's medical insurance - Part B) that adequate data security controls are in place to protect its data and files. Although the phase-in process which is being used for implementing prospective payment will require additional processing efforts on the part of the intermediaries, the intermediaries current security measures are adequate for protecting the data being processed.

Prospective payment is having an impact, albeit small, on HCFA's ADP operations. Several changes are currently being made in the Agency's program files to account for the new payment system. The new programs will accommodate:

- DRG rates for nine census divisions,
- urban and rural adjustments, and
- categorical groupings of data by the 470 DRG categories, 23 major diagnostic categories, and outliers.

Although there will be additional fields on each record, none of these fields will contain new personal identifiers; therefore, all existing security measures will remain intact. No new policies or procedural changes will be necessary for HCFA's security operations.

Regardless of the fact that no new security measures will be necessary to implement prospective payment, HCFA is implementing a unique security control program to control access to its data bases and files. The program is called "RAC-F" and will limit access to authorized users by:

- only accepting an identification number unique to each user,
- only accepting a password unique to the user program, and
- instituting program controls to deter intrusion or unauthorized access attempts.

HCFA also stores and processes data on the Social Security Administration's (SSA's) computers. SSA has a system, comparable to HCFA's RAC-F, known as "SECURE," that protects and controls access to all data stored on its computers.

To better maintain control on security matters, medical reviews are being emphasized. A good deal of responsibility is being given to fiscal intermediaries, Professional Standards Review Organizations, and Peer Review Organizations to conduct medical reviews. Also, there are two HCFA Central Office workgroups that are exploring, in detail, areas where HCFA monitoring would be more effective in gauging prospective payment reimbursements.

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HCFA has already decided to conduct a Central Office check on the assignment of DRG codes by rerunning each bill through the GROUPER program, the program maintained by each of Medicare's fiscal intermediaries that assigns the DRG code to each discharge. In addition, since the date of birth is considered when determining the hospital reimbursement amount, the date recorded on each bill will be compared with the date in the patient's existing records. There will be verification of the price paid for DRGs, as well. All DRG information will be used to update the bill history files.

I have just identified the checks that will be made on individual records. In addition to these checks HCFA will be using some system-wide checks. These checks include analyzing monthly tabulations on the number of bills received, the number of days of care given, service charges and reimbursement amounts. HCFA will also review data on day outliers and cost outliers. Both the case-mix index and admission patterns will be monitored.

As you can see, HCFA is conscious of system security and is introducing additional monitoring activities specific to DRGs and the prospective payment system. Although DRGs and the prospective payment system will not substantially alter our ADP operations, there will be some time delays in bill processing. These delays, however, will not be apparent to users of the systems.

My talk today has covered two broad aspects of computer processing: those of confidentiality of data and those of security of data. Newspapers in recent months have placed great emphasis on these areas. We have all read, in amazement, about the computer activities of the Milwaukee "414" gang, the group of teenagers who penetrated deep into the information processing systems of scores of businesses, government agencies, and other institutions. As a response to these reported activities, institutions have "beefed-up" their security to protect their confidential records from espionage, theft, embezzlement and the like. HCFA is no exception. The data received under the auspices of Medicare's prospective payment system will be protected.

IMPACT OF DRGS ON DATA PROCESSING

Leo K. Lichtig, Blue Cross of Northeastern New York

Under both the New Jersey and Medicare prospective payment systems, a hospital that can provide quality medical care to a patient at a total cost below a preestablished payment rate will be allowed to profit financially from this efficiency; the greater the efficiency, the greater the profit. To take advantage of these financial incentives, hospitals will need to focus management attention on the costs of "producing" healthier patients, and on ways to minimize these costs without compromising quality of care. The successful hospitals will be supported by data processing systems that can provide timely and flexible DRG management reporting capabilities.

This session of Diagnosis-Related Groups: The effect in New Jersey, The Potential for the Nation is devoted to these data processing systems. As a brief introduction to the topic, I would like to make three general observations:

- The management reporting aspect of a DRG data system is the key to its success.
- Data quality is a critical consideration for a complete data processing system.
- The usefulness of DRG systems is not limited to individual hospitals.

A hospital can develop its own data processing systems for DRGs or can use one developed by an outside firm. In either case it is useful to remember that before DRGs were adopted for Medicare's PPS, they were becoming a state-of-the-art tool for hospital management information systems. As hospital administrators, both medical and nonmedical, get more involved with DRGs and begin to see their management potentials, more demands will be placed on data processing systems for detailed management reports. This management reporting component is important to keep in mind when developing or evaluating a DRG data system since it implies a much broader range of system capabilities than are required to simply comply with the billing demands of the Medicare PPS.

A very important aspect of this management information component of DRG data processing systems is data quality. A hospital cannot just focus on the quality of their DRG software; the clinical information used as input to the data processing systems must be prepared completely and correctly by fully qualified and trained personnel. The best data processing and management information systems have little credibility without relatively reliable input data.

The final point before introducing today's speakers is that DRG data processing systems are not limited to individual hospitals. There are DRG systems that are regional, or that otherwise involve multiple hospitals. These systems have their own set of problems and opportunities. State rate setting agencies, Medicare, peer review organizations, third party payors, multi-hospital corporations and others must process data from multiple hospitals and properly integrate them in order to carry out program or management responsibilities. Regional planning agencies, large corporations and hospital associations are also interested in establishing regional DRG data systems. Such systems can be used to analyze hospitals' utilization levels, understand community health needs, review quality of care, and generally provide a better framework for understanding the hospital industry than has ever before been available.

With those introductory comments, I would like to introduce today's speakers:

Frank A. Miles is Assistant Vice President for Information Systems at St. Mary's Hospital in Hoboken, N.J., one of the first hospitals to enter the New Jersey DRG system back in 1980. Mr. Miles has been responsible for developing all the DRG and uniform billing systems for the hospital, and has been involved with DRGs since the late 1970s. His presentation today will describe the requirements for developing a DRG system for a pre-existing hospital computer system. Many of the considerations are applicable to DRG systems development in any environment, but the presentation will review some additional problems faced by hospitals without an IBM mainframe computer.

William Ryan, CPA, is a Partner with the international consulting firm of Deloitte, Haskins & Sells. Mr. Ryan was involved with the original rate setting systems in New Jersey, and provided considerable assistance to the New Jersey State Department of Health during development of the DRG payment system. His presentation will examine hospital DRG systems from a consultant's perspective.

John Parmigiani is Acting Director of the Office of Information Planning and Development within the Health Care Financing Administration. His presentation will examine data confidentiality and security issues in DRG data systems. This is an important issue as more and more organizations seek access to the very valuable DRG data that will be accumulating in patient data systems.

Nursing RIMs as a Management Tool

Michael A. Hupfer
Office of Research and Demonstrations, HCFA

I am pleased to be here today to moderate a discussion on a topic that I believe will have a profound effect on hospitals as DRG reimbursement is adopted: that is using nursing relative intensity measures as a management tool.

Nursing cost account for up to 35 percent of all direct patient care cost and is the single largest hospital expense. In traditional financial management or reimbursement systems expenses for nursing services continue to be covered under room and board revenue. The labor cost associated with providing direct patient care through the nursing department are typically apportioned on a per diem basis. This apportionment statistic assumes that nursing activity is a function of the patient day and that nursing resources consumed each day of a patient's stay are constant regardless of the status of the patient or illness. Overtime, a number of methods have been developed in an attempt to construct a more adequate nursing services cost accounting process.

The New Jersey Prospective Reimbursement System funded under a Federal Health Care Financing Administration contract developed the Relative Intensity Measures (RIMs). In the RIMs project New Jersey sought to develop a measure of resource use which reflects the variable intensity of nursing consumption as a function of patient-specific attributes. The RIMs project also developed an approach which permits a more reasonable and equitable allocation of general nursing cost on a per case basis for DRG reimbursement. In short this analysis was directed at developing a pricing mechanism which is sensitive to the variations in the intensity of general nursing labor associated with the treatment of cases displaying various illnesses and nursing problems.

During the period from November 1979 to January 1981 the methodology was conducted in a sample of eight New Jersey hospitals. The study collected actual minutes spent by each level of nursing and non-nursing activities on each shift for each patient during the entire length of stay. I believe the project was the most ambitious attempts to date to develop a method for accurate costing of nursing services.

The implication for a cost function for the pricing a nursing inputs under a cost per case reimbursement system are performed. From a payor prospective, per case price can be adjusted to more accurately reflect the cost of the resource consumed in treating the patients. From the hospital prospective, the hospital administration has a strong management tool; to allocate nursing labor pools based on actual case load and severity and to measure and more effectively manage the level of nursing effort that is used to cross-subsidize ancillary and other non-nursing services.

Today the panel members will provide an in-depth look at the design and application of Relative Intensity Measures.

- Russell Caterninicchio will discuss design and construction of RIMs. Russ is the initial architect of the RIMs' methodology for the State of New Jersey. He now has his own consultanting firm and is the Executive Vice President for Humanamethods, Inc.
- Grace Smith will discuss management under RIMs. Grace is with the New Jersey Division of Health Planning and Resource Development and is responsible for all the work being conducted by the State on RIMs. She is the former Director of Nursing at J.K.F./Edison Hospital.
- Lucille Joel will discuss the nursing profession and its future under DRGs. Lucille is the Director of Clinical Affairs, Rutgers University and is the past president of the New Jersey Nursing Association.
- Jane Adams will discuss the implications for Administrations and acute care. Jane is the Assistant Administrator in charge of patient services at Hamilton Hospital and is the former Director of Nursing at the hospital.
- Cynthia K. Mason will discuss the Federal view on RIMs as a management tool. Cynthia is a Project Officer with the Office of Research and Demonstrations, HCFA, and is currently the HCFA Project Officer for the New Jersey DRG demonstration. Prior to joining HCFA, she was Assistant Project Manager for the DRG demonstrations.

RELATIVE INTENSITY MEASURES:
DEVELOPING A RATIO OF COSTS TO CHARGES METHODOLOGY FOR THE PRICING OF INPATIENT NURSING SERVICES UNDER DRG PROSPECTIVE HOSPITAL PAYMENT*

Russell Paul Caterinicchio, HUMANAMETHODS, INC.

Introduction

Inpatient nursing is in a state of expanding professionalism. Nursing care has become more progressive involving responsibilities for restoration, maintenance and prevention. The nursing care processes may now be conceptualized as involving not only the traditional interventions associated with the administration of the medical regimen and activities of daily living, but as including such innovative activities as nursing quality assurance, discharge planning, Nursing Diagnosis and nursing clinical specialties intervention.

Unfortunately, these changes in the practice of nursing in the hospital setting have not been paralleled by innovations in financial management or reimbursement systems. Expenses for nursing services continue to be recovered under room and board revenue. The labor intensive costs associated with the provision of direct patient care through the nursing department are typically apportioned on a per diem basis, the patient day serving as the allocation statistic. Such an approach presumes that nursing activity is a function of the patient day, in spite of contentions in the literature of hospital economics that the patient day is at best a vague aggregate output measure (Davis, 1971; Lave and Lave, 1971; Berki, 1972; and Feldstein, 1979). Moreover, given that nursing costs may account for up to 35 percent of all direct patient care costs and up to 50 percent of a typical hospital's non-physician personnel budget, the potentials for mismanagement and inefficiencies associated with the accounting of nursing services under "hotel-type" cost centers and per diem pricing become increasingly real and manifold for hospital administration. For example, recent research (Caterinicchio, 1981) seems to indicate that the most common inefficiency involves the direct cross-subsidization of ancillary services by the nursing department, with nursing spending up to 47 percent of all patient care availability time in the performance of non-nursing duties.

Simply stated, neither the patient day nor patient census is sufficiently sensitive as measures of output to "explain" variations or changes in nursing intensity associated with the servicing of clients' derived demands. Hence, the costing of nursing service inputs by the per diem is not functionally linked to real changes in clients' demands given their differences in severity and complexity of illness.

Problem statement

This investigation, including all initial developmental analysis, proceeded under Task 19, "Analyze Nursing Services Resource Use," of A Prospective Reimbursement System Based on Patient Case-Mix for New Jersey Hospitals 1976-1983 (Modification 5).

Accordingly, as applied research, this

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The author is solely responsible for the research and conclusions expressed in this report. Accordingly, the material contained herein represents the views and opinions of the author, and neither endorsement by HUMANAMETHODS, INC. nor the Health Care Financing Administration nor the Department of Health and Human Services is intended or should be inferred.

An earlier version of this paper and research was presented to the International Conference on Systems Science in Health Care, Session F5: Hospital Cost Analysis, July 16, 1980, Society of Operations Research in Health, University of Montreal, Montreal, Quebec, Canada. Portions of this article have appeared as summary reports to the Health Care Financing Administration in partial fulfillment of contractual obligations. Portions of this article have also appeared in Social Science and Medicine, Vol. 17, No. 5, 1983 and are reprinted with permission from Pergamon Press, Inc.

study satisfied contractual obligations to:

- Develop a measure of resource use which would reflect the variable intensity of nursing consumption as a function of patient-specific attributes.

- Furnish a pragmatic approach which would permit a more reasonable and equitable allocation of general nursing costs on a per case basis for DRG reimbursement. This allocation statistic would have to identify the relative amount of nursing services and corresponding costs of direct patient care consumed by any given inpatient in any given hospital for a given base year.

Moreover, in the interest of basic research of hospital economics, this analysis attempts to construct a patient focused cost function whereby the costing of nursing services is based upon the relationship between the intensity of general nursing intervention and inpatient illness attributes. With nursing costs reflecting the value of nursing inputs associated with the provision of services and the case serving as a proxy for output, this study endeavors to:

- Identify which client attributes explain the variable intensity of nursing inputs.

- Develop an alternative to the patient day in costing nursing services given the relative consumption of nursing intensity by each client.

Theory

The task of specifying cost functions for inter-hospital production and services remains a formidable challenge despite much theoretical and empirical work (Cohen, 1970; Lee, 1970; Davis, 1971; Evans, 1971; Lave, et al., 1972; Rafferty, 1972; Diggs, 1974; Berry, 1974; Jeffers and Siebert, 1974; Fieldstein, 1979; and Hornung and Massagli, 1980). Not only are there problems encountered in identifying the kinds of inputs associated with the delivery of services and goods in multiple product institutions, but there is also general disagreement as to what constitutes measurable output and how relationships can be established between inputs and outputs among various departments for costing and management purposes. Moreover, even if a consensus over operational definitions of inputs and outputs is achieved, the ability to actually implement and evaluate across hospitals is severely limited by the lack of uniform cost and revenue reporting systems.

These problems become paramount when an effort is made to specify a cost function for nursing services because costs are often not reported on a functional basis (e.g., total nursing costs typically include central supply and non-patient care administrative costs), and virtually all nursing departments do not operate as revenue producing centers. (See Exhibit 1.) Accordingly, even if a case-mix patient classification system is available so that cases can be placed into meaningful output groups such as DRGs, charges are simply not available as proxy measures of input intensity for the nursing department; and an allocation statistic such as the ratio of costs to charges (RCCs) cannot be derived to apportion costs on a case-specific basis.

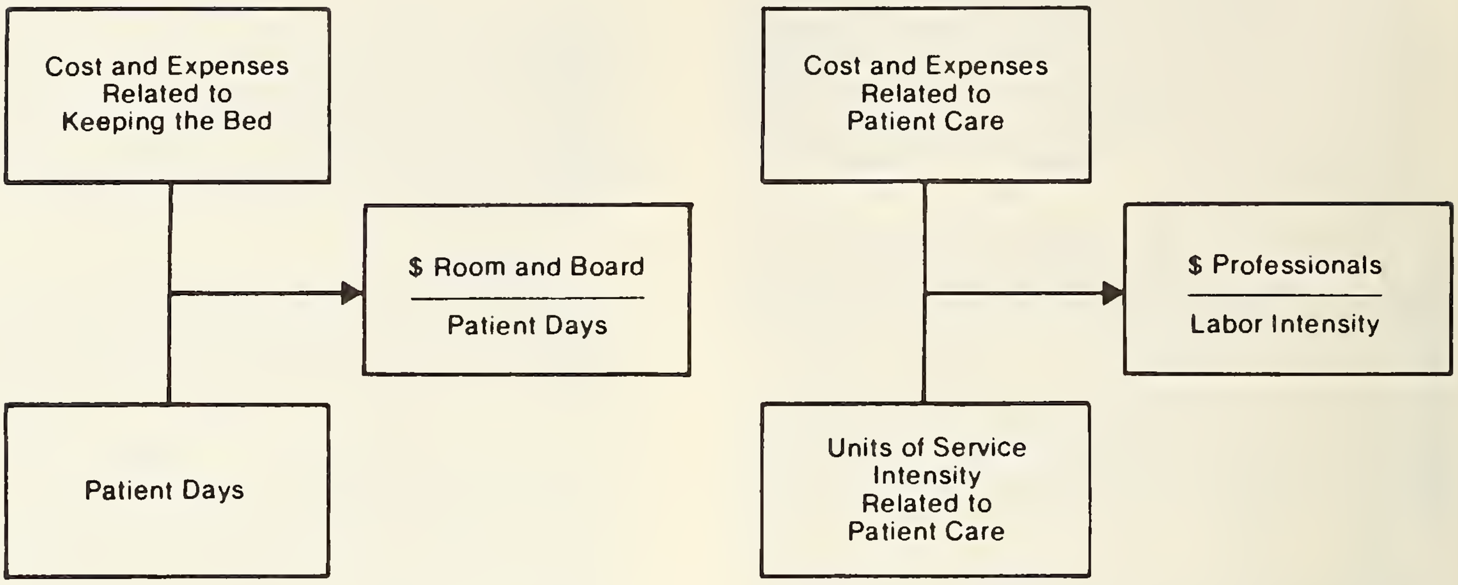
The employment of the patient day as the measure of resource use is the most popular approach in costing nursing services. It is an easily obtained utilization statistic that can be handled readily through generally accepted accounting principles. However, there are a number of serious threats to the validity of the patient day when it is used as a component in a cost function.

First, over periods of real time, the patient day is too crude a measure to account for changes in intensity due to the effects of various illness states and procedures. Berki (1972) argues that the patient day is insensitive to such effects as variations in admissions, stay and diagnoses. The patient day as an output measure ignores changes in the use of capital and intensity of labor associated with the treatment of patients having various illnesses and problems. For example, when the patient day is used to price nursing services, this flat per diem does not respond to real variations in daily resource use. Given that patients can be classified into groups displaying similar derived demands for nursing services (based upon commonalities in diagnoses, procedures and nursing problems), intensity in the consumption of services will fluctuate during the length of stay. Intensity would be expected to accelerate before a major event such as surgery because nursing services would be focused on assessment, planning and preoperative preparation. Intensity would probably peak shortly after the completion of surgery while nursing consumption would reflect intensive post-operative monitoring, care and teaching. As remission and wellness are achieved during the latter period of stay, nursing intensity would be expected to decay gradually to some minimal intervention in anticipation of the discharge. Such a scenario of variable nursing resource use over length of stay may be represented in terms of a log-normal distribution with the intensity of consumption as the ordinate and period of stay as the abscissa. (Refer to Exhibit 2.)

Second, in the context of the theory and practice of professional nursing, the use of the patient day in pricing what nurses do appears patently inappropriate. The patient day is inappropriate as either an output measure or an input measure because nurses do not service patient days; nor can what nurses do be described in terms of a static, fixed 24-hour period. Instead, nurses service clients whose demands vary every day throughout the period of hospitalization. In short, the professional labor of nursing departments consists of services and judgments that are delivered in response to the constantly changing

EXHIBIT 1

Defining an Appropriate Cost Function for Nursing

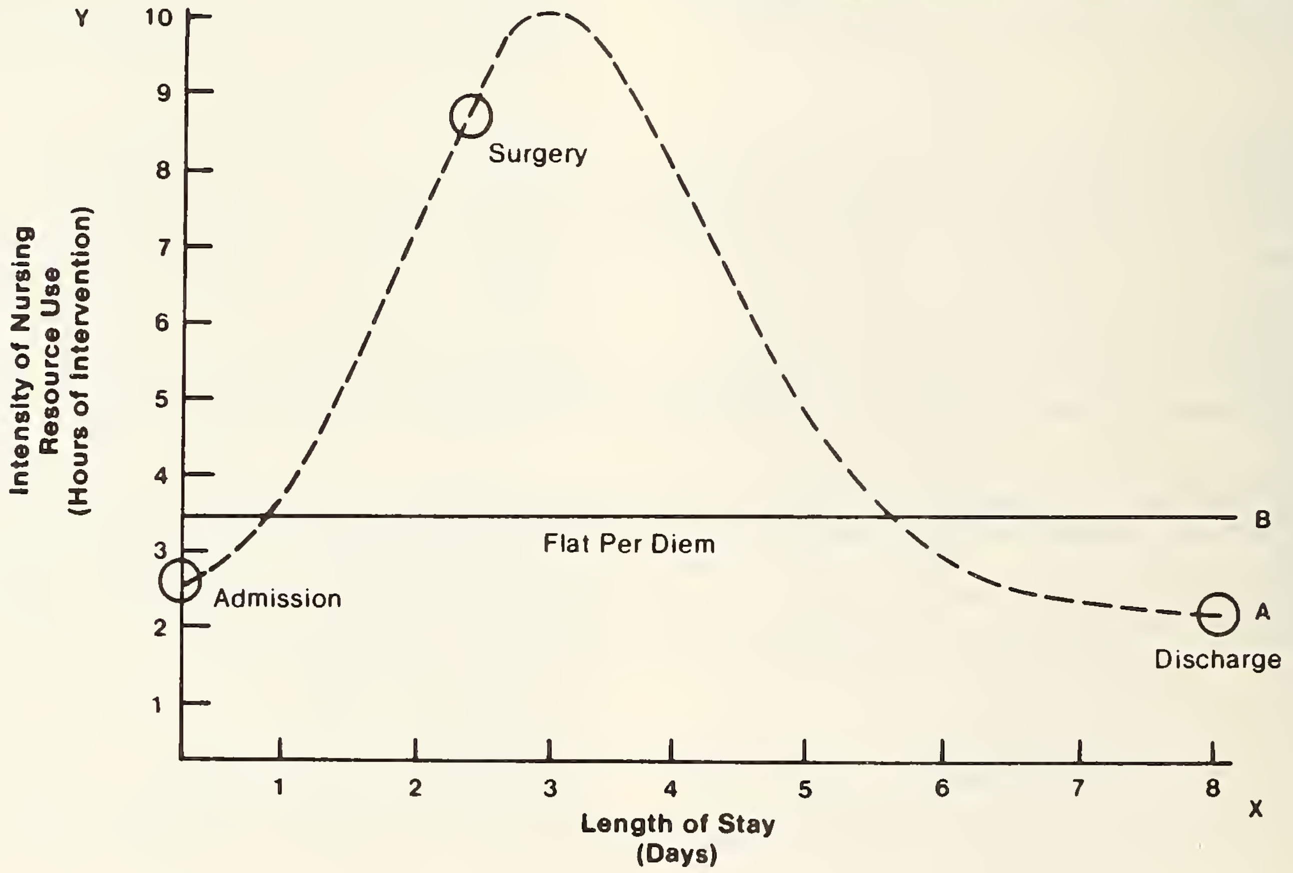


"Hotel-Type" Cost Function

"Client-Centered" Cost Function

EXHIBIT 2

Hypothetical Distributions Illustrating Plausible Relationships Between Nursing Intensity and Length of Stay For a Given Diagnostic Output Group



demands of clients given their respective medical and nursing problems. Hence, patients consume units of nursing service that vary in relation to their changing illness states. The patient day represents an accounting convenience that does not lend itself to the client-centered and service-focused professional labor of the nursing department.

Given these considerations, the specification of a cost function for nursing services should be client-focused, and should be able to accommodate the relationship between labor and the case whose consumption of labor varies conspicuously during the length of stay. With such a relationship established, the pricing of service inputs and the allocation of costs to each case (together with the weighted averaging of these case-specific costs within a defensible diagnostic output group) should yield a more equitable and reasonable approximation of actual nursing resource use.

Accordingly, the proposed cost function recognizes the case whose derived demands may be represented as an array of illness attributes and medical and nursing problems. In this respect, the case represents the "raw material" to which all direct patient care services are rendered. Professional nursing labor represents the inputs or units of service in response to these varying illness attributes and problems. These units of service encompass the universe of general nursing interventions performed by various skill levels. Interventions will include actions that involve both nursing and non-nursing skill and knowledge. Providing that all costs are functionally reported to reflect patient care, the costs represent the value attributed to nursing labor. Given that the case may be diagnostically assigned to a class whose members display similar patterns of medical or nursing resource use (e.g., intensity of interventions or length of stay), the case serves as the proxy for output.

The proposed cost function, therefore, establishes relationships between the case and units of service, and units of service and the value (costs) of the inputs. Case-specific units of service for any given hospital's inpatient population may be estimated by empirical techniques which identify the contribution of case-mix related attributes to variations in nursing resource use. The costing of inputs may then be achieved by treating the total nursing labor costs as the numerator and the total units of service as the denominator. Hence, the quotient furnishes the price per unit of service. Case-specific costs may be obtained by multiplying the price per unit of service by the total units of service derived for each case. The weighted mean cost per output group (the class containing diagnostically similar cases) may be obtained by summing the case-specific costs and dividing this sum by the total volume of cases contained in the output group.

Sample

The Case-Mix Nursing Performance Study was conducted over a sampling period which commenced in November of 1979 and ended in January of 1981 with a hiatus of four months during the summer and fall of 1980. A total of 18 hospitals was solicited for participation during 1979 and 1980. Of the eight hospitals comprising the sample (Administration from hospitals randomly selected as data collection sites did not always consent to participate; and voluntary participation represented a real sampling constraint.), two hospitals were from southern New Jersey, one from central New Jersey and five from northern areas of the state. Five of the hospitals had teaching status; three were classified as urban; two were suburban-rural and three were inner-city. Hospital size ranged from 155 to 550 maintained beds. The sample consisted of 2,660 inpatients surveyed from medical-surgical units, obstetrics-gynecology, psychiatric units, intensive care and coronary care. Nursing delivery models included team nursing, modified-team, and primary nursing for the intensive care units.

Instruments

The data collection instruments for the Case-Mix Nursing Performance Study have been discussed at length elsewhere (Caterinicchio, 1979; 1980; and Caterinicchio and Kinney, 1980) and will not be presented in detail in this paper. In brief, the study utilized three self-administered schedules which were completed by various professional and technical personnel during the performance of their client related duties.

In addition to the use of these on site self-administered instruments, hospital-specific total nursing costs were collected by means of the Standard Hospital Accounting and Rate Evaluation (SHARE) financial reporting system. SHARE Form C was used to obtain 1979 Actuals (reported inpatient costs) for four acute care cost centers (medical-surgical, pediatrics, psychiatry and obstetrics), four intensive care cost centers (ICU, CCU, burn care and neo-natal intensive care) and newborn nursery. Form C-6 was also used to capture costs from skill level based cost centers (Registered Nurses, Licensed Practical Nurses, attendants and unit clerks). The financial data from these schedules furnished a functional reporting of nursing costs, since nursing services are provided by certain kinds of nurses to certain kinds of patients and not from or to types of beds. (Nursing administration costs were apportioned to the nursing care units, ancillary services and outpatient units served by nursing administration.)

Procedure

The Case-Mix Nursing Performance Study was designed as a sample survey which permitted the collection of reported nursing intervention in actual minutes spent by each level of nursing personnel during the conduct of nursing and non-nursing activities on each shift for each client during the entire length of stay. Nursing units were selected at each study site on the basis of their respective size and case severity. All patients admitted or transferred to these selected nursing units were included in the study and were surveyed right up to discharge. The maximum sampling period for any given study patient was 32 days regardless of discharge.

In this manner, nursing intensity data were collected for a total of 3,336 patients from eight hospitals over a period of 11 months. Following extensive computer editing to assure a clean raw data set, and the estimation of activity data for missing shifts by means of a linear interpolation program, activity data were merged with case-mix and demographic data for each patient using the medical record number as the common linking element. This process allowed the creation of a client-specific computer record having a logical record length of 1385 bytes and consisting of 465 raw and computed variables. The total number of valid, merged client records was 2,747, allowing a merge rate of 82.34 percent. Of the total number of 63,388 reported patient shifts in the merged data base across the eight-hospital sample, 3,740 patient shifts were interpolated, yielding an interpolation rate of 5.90 percent. The interpolation rates ranged from 1.66 percent to 9.14 percent. Following additional data audits, the final useable sample consisted of 2,660 cases.

Indices and operational definitions

Grand total raw minutes over length of stay were computed for each client. This grand sum included total minutes of nursing and non-nursing interventions across all skill levels across all nursing unit types. In addition, non-nursing time collected for groups of patients was prorated to each client. Hence, this grand sum of general nursing activity represented the amount of nursing units of service consumed by each client during the period of stay.

Principal Components Factor Analysis was conducted to examine how total activities behaved statistically between skill levels across the eight hospitals. The results strongly suggested that significant differences existed between hospitals regarding the manner in which Registered Nurses, Licensed Practical Nurses and attendants were utilized in the provision of patient care and services. Hence, these findings provided empirical evidence in support of adjusting interventions to reflect real salary differentials between skill levels among the hospitals. In an effort to address the effects of salary differentials, a "Registered Nurse Equivalent Units of Service Index" (RNEUSI) was calculated. This was accomplished by indexing the average labor cost per hour for each skill level to the average labor cost per hour of Registered Nurses, where the index of the cost per hour of Registered Nurses is equal to unity. Accordingly, before the raw activity minutes were summed for all skill levels, the minutes were adjusted by the respective skill level indices.

In addition to operationally defining nursing units of service (i.e., inputs) in this manner, three other indices were constructed from raw clinical information captured from the Client Permanent Record. A Multiple Diagnoses Index (MDI) and a Multiple Procedures Index (MPI) were computed by summing the number of diagnoses and procedures (reported as ICD-9-CM codes), respectively. These indices represented case severity in terms of multiplicity of medical problems and intensity of therapeutic and/or special diagnostic interventions. Finally, the period of stay was weighted by the number of days spent in special care units such as ICU and CCU. This index was obtained by dividing the number of special care unit days by the total length of stay. This quotient was labelled SCUDRAT (the ratio of special care unit days to length of stay). Other client-specific continuous variables included length of stay (LOS) and age.

The patient-specific nursing resource use model

With these indices computed for each client, the initial quantitative step in constructing a patient-focused cost function for nursing services involved the specification of plausible relationships between nursing resource use (intensity of units of service) and case-mix attributes. Accordingly, the general model specifies indexed total units of service (RNEUSI) as the dependent variable and age (AGE), Multiple Diagnoses Index (MDI), Multiple Procedures Index (MPI), length of stay (LOS) and the ratio of special care unit days to length of stay (SCUDRAT) as independent variables.

While this multivariate model lended itself to general linear modelling techniques, the most significant challenge to specification and estimation involved the construction of classes of patients within which similar derived demands for nursing resource use could be identified. Lave and Lave (1971, 1972) have already demonstrated that such "isoresource categories" can be developed reasonably well by means of classification schemes that utilize raw diagnostic and procedural coding data (i.e., International Classification of Diseases). The data base of the Case-Mix Nursing Performance Study not only contained all raw ICD-9-CM diagnostic and procedural codes for each patient, it also contained admission and discharge status and the latest Major Diagnostic Categories (MDCs) into which patients were assigned given their principal diagnosis. Thus, a number of categorical variables were available to serve as potential partitioning elements in the construction of isoresource categories for nursing services.

Exploratory analysis and testing

The preliminary exploratory analysis of the nursing resource use model involved correlation analysis of the variables across the sample without any case-mix controls. Correlation analysis was also conducted with the data a priori partitioned at the MDC level. The bulk of the statistical analysis in constructing and testing the model involved general linear modelling (unbalanced ANOVA), using ordinary step-wise least squares regression analysis with the maximum R^2 approach. Trend analysis and comprehensive tests of the disturbance terms were also done.

This approach essentially involved the partitioning of patients into the MDCs and observing the total effects of admission class (emergency vs. elective), discharge status (live vs. mortality) and the presence or absence of surgery. At this level of analysis, length of stay was regressed on indexed total units of service (RNEUSI). (Length of stay to the first order was used as the initial predictor variable because correlation analysis indicated that it explained up to 94 percent of the variance.) The intercepts and slopes of these curves were then studied to determine similarities; and where similarities could be demonstrated, the MDCs were collapsed into clusters. In addition to reviewing commonalities in the statistical behavior of the curves, clusters were formed by observing similarities in per diem indexed intensity for each MDC as predicted by length of stay. Finally, the MDCs were broken down into sub-classes of principal diagnoses based upon the intensity of threat to life. In this way, clusters representing special problems to nursing practice could be specified, and ranked from low to medium to high threat to life.

These analyses permitted the clustering of patients into the "best" classes that displayed similar patterns of nursing resource use given patients' case-mix attributes and nursing problems. The clusters not only had to behave well statistically in terms of estimating common patterns of nursing resource consumption, but had to be logical in terms of the nursing problems involved. In this way, the overall approach allowed the creation of isoresource categories "fine-tuned" to nursing.

Summary of the findings

Using general linear modelling techniques, the direct and indirect effects of age, length of stay, multiple diagnoses, multiple procedures, the ratio of special care unit days to total length of stay, and the effects of the presence of surgery, admission status, discharge status and membership in Major Diagnostic Categories on indexed total units of nursing service were explored. The results of the analysis suggested that length of stay is the most significant predictor of indexed nursing units of service regardless of age and the complexity of the medical problem when case-mix is controlled through the assignment of cases to 13 nursing services isoresource clusters. The relationship between length of stay and indexed total units of nursing service was found to be highly statistically significant, positive and predominantly curvilinear: the greater the length of stay, the greater the consumption of general nursing units of service.

While this finding may appear intuitive and apparently tautological, the methodology actually yields an empirically derived patient-specific, case-mix adjusted length of stay statistic which can be used to apportion nursing costs. The approach permits the estimation of nursing units of service which reflect the relative amount of nursing inputs and corresponding costs of direct patient care consumed by any given inpatient in any given hospital. This client-focused nursing cost allocation methodology satisfies the conditions necessary for the apportionment of direct patient care costs to the case:

- The allocation statistics are defined consistently across all clients receiving services.
- The allocation statistics are sufficiently sensitive to reflect the differential diagnostic consumption and therapeutic use of nursing services by clients displaying types and degrees of case-mix and illness attributes.
- The allocation statistics are defined universally across all institutions, thereby allowing meaningful cost per case comparisons.
- The allocation statistics are readily derived from existing data elements captured on the hospital discharge abstract or Uniform Bill.

An understanding of the derivation of this client-focused allocation statistic in this context is fundamental to appreciating its role in distributing nursing costs more equitably than the traditional patient day.

Theoretical and practical implications

To the best of this investigator's knowledge, this study is the first of its kind to utilize an empirical approach to construct and test a client-focused cost function for the pricing of nursing inputs under cost per case reimbursement. The ability to relate nursing costs to a unit of service reflecting patient-specific nursing resource use, and in turn, to allocate these costs in conjunction with other direct patient care costs and services to derive institutional or inter-institutional costs per case, is paramount to traditional per diem costing and conventional fiscal management in hospitals. The methodology is sufficiently sensitive to variations in case severity to the extent that the costing of nursing services to any given output group (such as DRGs) more accurately approximates actual resource use during the period of stay.

The implications for hospital management are significant, since the methodology is totally computer automated and lends itself to management information systems. For example, with the identification of the flow of nursing resources between and among diagnostic and therapeutic output groups such as DRGs, nursing administration possesses an enhanced capacity to coordinate the professional nursing labor pool in the direction of the institution's actual case load and case severity. Moreover, the ability to document the demand for nursing resources on a per case basis goes hand in hand with the ability to exercise more effective control over the relationship between the nursing department and ancillary services. Such a management capability for nursing administration becomes particularly important in the light of the amount of direct cross-subsidization that nursing seems to provide in support of ancillary services. The amount of non-nursing reported in this data base as part and parcel of routine and intensive interventions has staggering implications for the efficient deployment of nursing personnel in the hospital setting. For one, the incentives introduced by cost per case reimbursement are directed towards efficient management of all components of patient care, thereby encouraging the integration of all departments for better administration and management of services and costs.

Nursing intensive cases can be identified by means of this client-focused allocation methodology, and responsible nursing administration may now take advantage of this knowledge to manage professional nursing resources more efficiently: to direct nursing skill and knowledge to those cases displaying the most conspicuous consumption by virtue of their illness and case-mix attributes.

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THE "RIM": DEVELOPMENT AND IMPACT ON NURSING MANAGEMENT

Grace P. Smith, New Jersey Department of Health

The "RIM" represents a true landmark for the nursing profession and has the potential for creating the greatest change since 1966 when Medicare was implemented. The DRG Patient Classification has provided the basics of an information system without equal.

As with the advent of any innovative system, new responsibilities accompany the new awareness of the potential for nursing management and nursing autonomy.

There were seven contracts awarded by the Health Care Financing Administration for the development of a Prospective Payment System Based on Patient Case-Mix; however, New Jersey had the only contract that included a nursing study. The purpose of the nursing study was to develop a measure of resource use which would reflect the variable intensity of nursing consumption as a function of patient-specific attributes.

The need to develop a nursing cost allocation statistic was necessary to: recognize nursing's contribution to the health care system; recognize differences in nursing care rendered to each patient; allow nursing to become a revenue producing center; and, allow more informed nursing management decisions through the utilization of cost information.

This new concept of developing a ratio of costs to charges for nursing is known as the Relative Intensity Measure (RIM) Methodology. The complete methodology is described in the Eighteenth Quarter Report: A Prospective Reimbursement System Based on Patient Case-Mix for New Jersey Hospitals 1976-1983. Trenton, New Jersey: New Jersey State Department of Health, 1981.

On June 6, 1983, the RIM Methodology was passed into final legislation in New Jersey with implementation in all accute care hospitals scheduled for 1985. This represents a landmark for nursing in the country.

The per diem system represents the traditional reimbursement system where nursing costs are included in room and board and a flat rate per day is paid regardless of nursing intensity.

The RIM Methodology is a new method of cost allocation which recognizes differences in nursing intensity from patient to patient over the Length of Stay (LOS). RIM's are used as a proxy for nursing charges for patients in acute care units of the general hospital.

The RIM Methodology represents a state of the art approach and the data collected in the eight study hospitals reflected what nurses actually do and did not measure the extent to which nursing interventions met the needs of the patient.

Data was recorded by the Registered Nurse, Licensed Practical Nurse, and Nursing Assistant for each patient on each shift. The minutes for all skill levels were adjusted by salary differentials to produce a "Registered Nurse Equivalent Units of Service Index". Data was collected for 3,335 patients; however, the final usable sample was 2,660 patients.

Minutes of nursing intervention were collected for the following categories: Assessment and Planning; Teaching; Emotional Support; Medications and Treatments; and Physical Functions. Minutes of non-nursing were collected for the following activities: Transport; Dietary; Housekeeping; and Miscellaneous.

It must be noted that a group of thirteen nursing consultants, representing education, administration, research and clinical practice, worked closely with the DRG Project Nursing Study staff throughout the research, development and implementation of the methodology. The consultants unanimously agreed that patient care activities were divided into two distinct groups: Nursing and Non-Nursing. Non-Nursing activities required no knowledge or skill of nursing at any level.

The degree to which nursing personnel perform non-nursing activities is usually dependent on Hospital/Nursing Policy over time. Nursing has traditionally filled in for all "missing persons". The study showed that 25% to 40% of nursing personnel time was spent in non-nursing activities and the type of nursing model utilized was just a method of assignment unless the non-nursing issue was addressed.

The raw reported minutes of nursing intervention by skill mix for each patient in the study were merged with specific information, i.e., Principal Diagnosis, Major Diagnostic Category (MDC), Sex, Medical or Surgical, Admission Classification, Length of Stay, Age, Discharge Classification and Threat to Life Status. The compilation of this data then determines the placement of the patient into the appropriate Nursing Resource Use Cluster, which represents a homogeneity of resource use during the average length of stay.

There are a total of 9 Nursing Resource Use Clusters in which all 23 Major Diagnostic Categories (MDC's) and all 467 Diagnosis Related Groups (DRG's) are utilized. There are 4 proxy equations developed for patients in areas that were not studied. These categories are:

- Pediatric.
- Same Day Surgery.
- Same Day Stay for Chemotherapy and Peritoneal Dialysis.
- Same Day Stay for Transfusions and all other Non-Surgery.

The equations relating to these categories were developed by Nursing Consultants with clinical expertise.

The application of the RIM Methodology for a typical patient and the explanation of the RIM's equation is shown in Exhibit I.

Since RIM's are used as a proxy for charges, the relationship between actual nursing costs and RIM's is used to determine a cost per RIM. The hospital's total actual nursing costs are used. It must be noted that nursing costs relating to the Operating Room, Recovery Room, Labor and Delivery, Newborn Nursery, Intensive Care Unit, Coronary Care Unit, Neonatal Intensive Care and Emergency Room should be excluded since the nursing care rendered in these areas does not vary in intensity and the reimbursement is separate from the acute care units.

The determination of a price per RIM is calculated as follows:

Your hospital's total Actual Nursing Costs =	$ 7,000,000
Total RIM's estimated From all your patients =	$42,000,000

$$\frac{\$7,000,000}{\$42,000,000 \text{ RIM's}} = \$.017 \text{ price per RIM}$$

When the price per RIM is known, the nursing cost for the example patient in Nursing Resource Use Cluster #7 in Exhibit I can be determined as follows:

Total minutes (RIM's) of Nursing Activity consumed during the 13th day LOS = 3,306,281

Price Per RIM = $0.17
3,306,281 X 0.17 = $562.07

By the application of the RIM's equation and utilizing the actual LOS for each patient in the same DRG, an average nursing cost per DRG can be derived. As an example, our typical patient in Exhibit I is assigned to DRG 179 - Inflammatory Bowel Disease, Medical, which is under MDC 6 - Diseases and Disorders of the Digestive System. There were seven other patients assigned to DRG 179 during the year:

- Patient 1 = $ 562.07
- Patient 2 = $ 600.25
- Patient 3 = $ 555.25
- Patient 4 = $ 595.75
- Patient 5 = $ 618.20
- Patient 6 = $ 538.00
- Patient 7 = $ 560.00
- Patient 8 = $ 510.00

TOTAL $4,539.52

$$\frac{\text{Total Nursing Costs for DRG 179}}{\text{Number of Cases}} \qquad \frac{\$4,539.52}{8} = \$567.44$$

Average Nursing Cost for DRG 179.

The product of the implementation of this methodology is the Nursing Management Report, which will be a valuable tool for the identification of facts that serve as indicators for action and planning. The array of information displayed on a hospital-specific Nursing Management Report includes the following:

- DRG's - 1 through 467.
- Descriptor.
- Number of cases.
- Hospital rank.
- State rank.
- Average length of stay.

  Hospital
  State
- Total nursing cost (all patients in specific DRG).
- Average nursing cost per case.

  Hospital
  State
- % Nursing cost of Total DRG Cost.
- Nursing cost rank (all DRG's).

Never before has information of this type been available to nursing service. The analysis of this information can now be a pivotal point for nursing management. An example of the utilization of the Nursing Management Report is displayed in Exhibit II.

From the array of information on the Nursing Management Report, the critical key factors to be considered are:

- Number of cases.
- Average nursing cost per case in relationship to the reimbursement rate.
- Total effect of incentive (profit) or disincentive (loss).

A further analysis may be indicated when a significant disincentive in any DRG is noted. Some factors to be considered are:

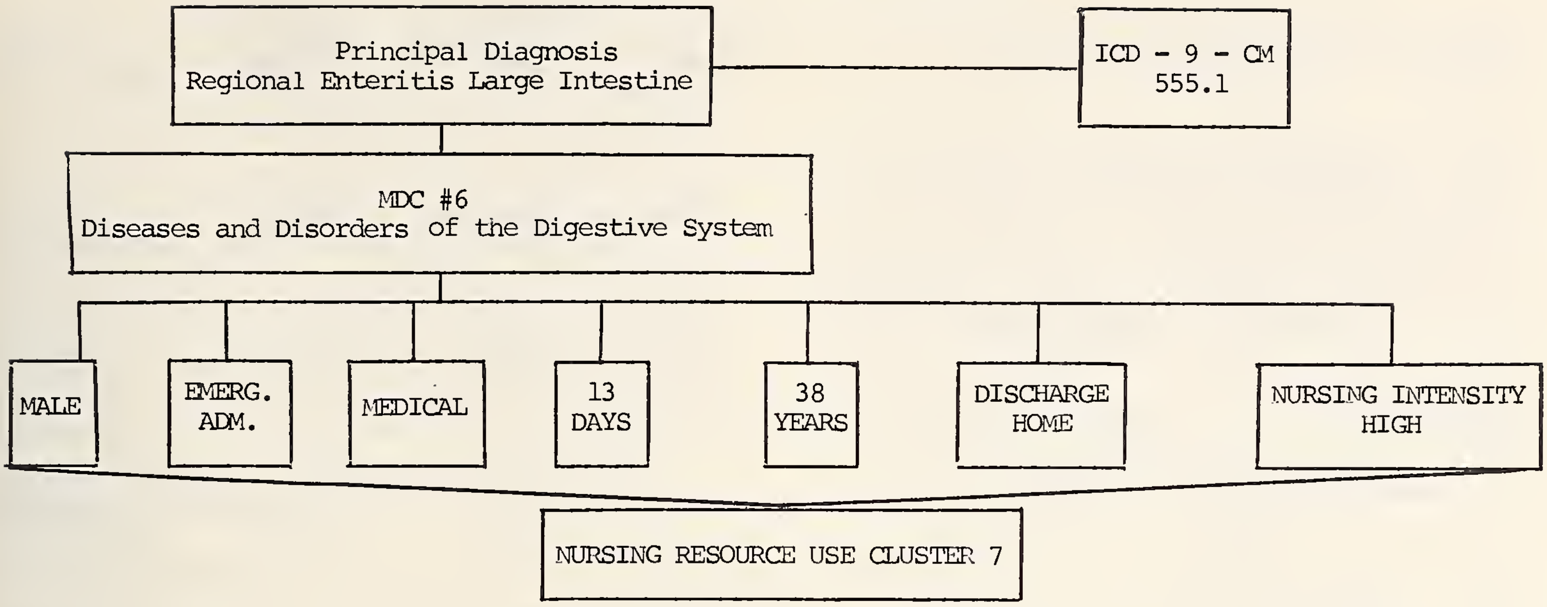
- Average LOS of hospital compared with State.
- Reasons for above average LOS:

  Discharge planning needs improvement;
  LOS extended due to late reports from

EXHIBIT I

Typical Patient

Application of RIM Methodology



Equation for Nursing Cost Allocation:
Y (RIM's) = 927.003 + 50.761 (LOS 1.5)

Explanation of RIM's Equation Nursing Resource Use Cluster 7

Y = 927.003 + 50.761 (LOS 1.5)

Where Y = dependent variable; total indexed nursing units of service (RIM's) in minutes for patient in hospital:

927.003 - constant (fixed) nursing units of service in minutes over the length of stay;

50.761 - length of stay coefficient predicting the change in nursing units of service in minutes with each unit change in length of stay;

LOS - independent variable; length of stay in days for patient in hospital.

Total minutes of activity over length of stay is found by using the actual LOS of 13 days:

$Y - 927.003 + 50.761 (13^{1.5})$
$Y - 927.003 + 2379.278$

$Y - 927.003 + 50.761 (46.872)$
$Y - 3306.281$ minutes or 55.105 hours

Accordingly, this patient consumed approximately 3306 minutes or 55 hours of nursing services over his 13-day period of stay.

EXHIBIT II

Utilization of Nursing Management Report

DRG	DESCRIPTOR	NO. OF CASES	AVERAGE LOS	AVERAGE NSG COST PER CASE	TOTAL NURSING IND./(DISINC.)
125	Circulatory Disorder W/ Cardiac Cath., W/O AMI, W/O Complex DX	118	H2.14 S2.39	H164 R208	118 X $44 = $5,192
162	Inguinal and Femoral Hernia Proc. W/ Age 18+, W/O Age 70cc	227	H3.92 S4.63	H278 R290	227 X $12 = $2,724
018	Cranial and/or Peripheral Nerve Disorder W/ Age 70cc Medical	6	H6.33 S8.91	H452 R618	6 X $166 = $ 996
039	Lens (Cataract) O.R. Procedure	310	H3.34 S3.26	H236 R206	310 X $30 =($9,300)
243	Back Disorder Medical	208	H8.50 S8.79	H609 R547	208 X $62 =($12,896)

Ancillary services (Laboratory, Radiology)

- Cross-subsidization of other departments by nursing causing overtime costs.

Non-nursing activities require inventory prior to making managerial changes

The Nursing Consultants recognized that the RIM's equation was developed for patients having a reasonable LOS; however, some patients required a longer hospitalization and were classified as "outliers". Nursing trim points were defined for each Nursing Resource Use Cluster which would eliminate unrealistic changes in cost from accruing. When actual study observations for patients in each cluster ceased, the trim point was established. Beyond this point, the reimbursement is by per diem and the RIM equation was terminated.

Basic Categories - Recognizing Differences in Nursing Resource Use

LOS Past Trim Point

- Expiration.
- Complications and/or Comorbidity.
- Maintenance care.

Application of Nursing Cost Allocation - Example Patient - Exceeding Nursing Trim Point

Nursing Resource Use Cluster 7 - Nursing Hours Per Day

Length of Stay over 30 Days

- Expiration

  RIM's equation - 417.045 X LOS $>$ 30 days (6.95 hours)

- Complications and/or comorbidity

  RIM's equation - 278.029 X LOS $>$ 30 days (4.63 hours)

- Maintenance care

  RIM's equation - 139.015 X LOS $>$ 30 days (2.32 hours)

The development and implementation of the RIM Methodology has allowed nursing to stand alone in relationship to costs and has provided a firm foundation of documentation for logical management decisions. This has given nursing a freedeom that has never before been experienced by the profession in the acute care hospital setting. When a new freedom is obtained, additional responsibilities must be accepted and they include:

- Monitoring changes in nursing practice.
- Addressing quality of care issues.
- Providing counsel on the refinement of the Nursing Management Report.
- Addressing the need for changes in nursing cost payment following appropriate research and documentation.

A Nursing Advisory Committee, analygous to the Physicians' Advisory Committee, will serve a vital role in the implementation of the RIM Methodology in New Jersey. This Committee will be advisory to the Hospital Rate Setting Commission through the Department of Health and will be comprised of representatives of the health care industry as follows:

- Two Staff Nurses - BSN having 3 or more years experience in acute care hospitals.
- Two Nursing Service Administrators.
- Two Nursing Educators.
- Two Utilization Review Nurses.
- One New Jersey State Nurses Association representative.
- One New Jersey Hospital Association representative.
- One Payer Group representative.
- One Consumer representative.
- One Hospital Administrator.

The DRG Patient Classification, Prospective Reimbursement and the RIM's system of defining nursing costs provide the meaningful documented information necessary for the efficient and effective management of the health care delivery system. A collegial relationship must exist with the "core" management directors in the acute care setting, namely:

- Hospital administration.
- Nursing administration.
- Financial directors.
- Medical practitioners.

Only through this relationship can common goals be achieved.

Nursing service administrators, supervisors, head nurses, clinicians and staff nurses, you must challenge the status quo! Look beyond your daily routine and view the larger scope of nursing! The entire health care delivery system has been possible because of nursing's determined efforts to bring a state of wellness to people through care, nurturing, counseling and education. Your trademark is patient care; you cannot be handmaiden to ancillary departments and expect to win professional credibility. As long as you continue to fill your tours of duty with non-nursing tasks, you will continue to receive salaries that are commensurate with your performance.

Nurses have made this world a better place; but you have neglected a very important factor, the art of leverage. Webster defines leverage as "positional advantage, power to act or to influence". It is a word that has a big meaning for 1.4 million nurses in the United States. Nurses must make their contributions visible to the consumer.

Nurses need to voice their own expressions of practice, and must become knowledgeable of the economics of their services. Alternative systems of financing and management, such as patient care coordination through case-mix reimbursement, must be adopted by nursing service administrators. Contractual nursing services from the nursing administrator to the nursing aide might be the way to provide that needed leverage to do nursing. Change the system and bring health care delivery back into proper focus. Let nurses speak for nursing!!

The material contained herein represents the views and opinions of the author and no endorsement by the New Jersey State Department of Health nor the Health Care Financing Administration is intended or should be inferred.

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THE NURSING PROFESSION AND ITS FUTURE UNDER DIAGNOSTIC RELATED GROUPS [DRGs]

Lucille A. Joel, Rutgers University, College Of Nursing

Prospective rate setting built on case mix is just another step in a series of events leading towards increasing institutional accountability for health care. In turn, health care institutions are expected to exert greater influence over provider professionals. Programs such as utilization review, PSROs, Joint Commission quality assurance requirements, HSAs, and certificates of need have all set the tone for current innovations in reimbursement.

The psychology of incorporating DRGs into rate setting is to shape the clinical management practices of the professionals who generate costly care, and to allow hospitals to financially plan ahead based on the nature of patients they have historically served. Though hospitals are allowed infinite latitude in the means they employ, the end is cost curtailment. Arguments that cost-efficiency and quality are mutually exclusive are insensitive to the social mandate which has surfaced, and show ignorance of the responsibility of the professions. Professionals remain the guardians of the quality of their service. They do not bend in their advocacy role under administrative pressures. The success of providers under DRGs is contingent on their ability to speak with authority about their service, to internally regulate their own members, and to contribute to the attainment of institutional goals. This last attribute is essential to accommodate the changing times. In short, health care workers, including nurses, must develop a cost conscience while remaining vigilant of therapeutic effectiveness.

This challenge takes on real meaning as we consider that successful hospitals under DRGs reflect a complex case mix, high volume and short length of stay. These characteristics forecast an increased intensity of nursing care. As nursing becomes more therapeutically aggresive in decreasing length of stay and influencing the use of ancillary services, intensity will climb to even greater heights. Patients who are complex and costly by virtue of their extended length of stay are usually nursing intensive. Diagnosis and treatment of disease and stabilization of the medical regimen can often be accomplished quite expeditiously these days. A patient's confinement is more usually extended because of needs for teaching, counselling, and development of self-care abilities, community networking or family support. This is nursing. As simpler cases are retained in the community for treatment, almost every bed will be filled with a patient requiring substantial amounts of direct, complex nursing care. Recovering patients or "walking wounded" will be rare occurrences. Rather, patients will be returned to home and ambulatory care while the demand for nursing still exists. More hands will be needed to deliver care, and the nursing profession will have to make some critical decisions about the skill level of those hands. Clinical and managerial nursing must form new alliances to speak with one voice about the state of the art of nursing. Nursing staff organizations to parallel medical staff organizations are long overdue.

Initiatives to gain recognition for practice autonomy are merely one aspect of an intimate relationship between professional self-governance, information which describes and quantifies resource use, and creative manpower deployment. Within the DRG system, those with the most complete data will best be able to survive. Nursing has had little information on which to build its case as a contributor to institutional solvency. The experimental incorporation of Relative Intensity Measures of Nursing (RIMs) into New Jersey rate setting begins to quantify nursing. This methodology will eventually access data capable of generating dependable state-wide standards. The result will be reliable interagency comparison. Critics should be mindful that RIMs deserve at least the courtesy accorded to DRGs in their early stages of development. RIMs are a landmark in quantifying nursing resource use on a case specific basis for aggregate period of hospitalization.

Internal data are as important as the interagency comparisons which RIMs will enable. Internal information will allow nursing to stake its claim on the limited number of budget dollars available within the practice environment. Nurse managers can begin by characterizing their historical case mix and the patterns of nursing resource consumption these cases represent. As the case mix profile changes, information will already exist upon which to base new projections for departmental resources. Outcomes of care should be monitored as carefully. Correlations should be drawn between nursing program innovations and resource utilization. Careful data collection and knowledgeable interpretation can increase nursing's share of the institutional budget, build a case for increased revenue for the institution, pinpoint where incentive monies have been generated by nursing, and identify geographic areas of the hospital where quality is suspect or exemplary.

The stress of DRGs should foster a new respect between clinical and managerial experts in nursing. The secrets to more cost-efficient care lie with specialty practice and creative use of human resources. Sophisticated specialty care may warrant geographic reorganization within hospitals, and regionalization among hospitals.

Historically most nurses have worked in hospitals. In fact, our retarded evolution as a profession can be closely linked to the anonymity we have been accorded through per diem billing. The fact that the institution-wide cost of nursing has been averaged and equally shared by all patients has done little to emphasize variable nursing needs from case to case. In view of these persisting inequities any situation which focuses on equity and the quantification of resources promises a bright future for nursing.

In summary, DRGs can provide an unparalleled opportunity for nursing. Where we have attained a level of occupational maturity where success is possible on a hospital basis, and contingent on:

- The establishment of a climate of practice autonomy, where nursing can speak with authority to the nature of its service and its practitioners.
- The creation and management of data to measure what has been, what is, and emergent patterns of resource use.
- The openness to consider new and creative approaches to manpower utilization, challenging every preconception and existing stereotype.

RIMS - IMPLICATIONS FOR ADMINISTRATION AND ACUTE CARE

Jane A. Adams, Hamilton Hospital

Diagnosis-Related Groups (DRG's), as an incentive based prospective reimbursement system, "rewards" hospitals for realizing costs below the DRG price in an effort to provide for continual reduction in hospital costs and, therefore, health care costs. Hospitals, as they approach the goal of incurring costs equal to or below the DRG price, will be making some serious decisions related to reducing lengths of stay, maximizing those services which seem more cost effective than others, limiting capital expenditures to those technologies which will enhance the more cost effective services, maximizing the utilization of personnel, and altering focus by further developing community and outpatient services.

Since nursing costs comprise approximately 55% of a hospital budget, they will seriously influence any decision made relative to cost effective operations. It is essential, therefore, that nursing resource use and related costs be adequately measured and allocated to the DRG, based on the degree to which they are used by the diagnostic group. Relative Intensity Measures (RIM's) reflect the consumption of nursing services on a DRG specific basis. The price of each DRG incorporates the cost of nursing consumed by that DRG, measured in terms of RIM's.

Nursing Management Reports within the system will provide nurse administrators with data that allow them to specifically identify areas within their departments and hospitals that affect efficiency and effectiveness. The information in these reports will include the volume of each DRG, the average length of stay for each, and the per cent of the DRG cost that nursing represents, as well as a comparison to the New Jersey State Standard. Utilizing the information on these nursing management reports, the nurse administrators will be able to pinpoint specific problem areas, then analyze and prioritize for action. Strategies for improvement and change can then be developed.

Quantifying the cost of nursing introduces many implications for all of us in administration and acute care. Identifying the average nursing cost per case, for example, paves the way toward itemizing the cost of nursing care on the patient's bill.

The ability to identify that portion of the cost of the DRG that nursing represents, allows us to establish nursing as a revenue-producing center. Accomplishing this, we will be able to compare nursing costs with the identified revenues when planning for, and justifying nurse staffing. Further, with the prospective reimbursement system being incentive based, we can identify the amount of the hospital incentive that can be attributed to nursing.

Issues surrounding length of stay also impact on administrative decision making in acute care. Comparing length of stay and total nursing costs per DRG with the state standard on the management reports will indicate areas for review and action. High length of stay and related high nursing costs on the reports across all DRG's, suggests that efforts be made to tighten patient care systems to the most effective level in an attempt to reduce both. An increase in the utilization of pre-admission testing may be indicated to reduce length of stay.

Nursing may perceive the need to devise ways to utilize personnel more effectively and accelerate the progress of the patients toward recovery and discharge. Drastically reducing the performance of non-nursing activities by the nursing staff may be indicated. This includes clerical activities, messenger service, dietary activities such as serving trays, and supportive professional activities such as performing physical therapy functions on weekends when physical therapy is closed.

More effective coordination of patient care by the nursing staff may be indicated to reduce length of stay and reduce nursing cost. Accurate nursing assessment of patient care needs, as well as early initiation of discharge planning, is essential to more rapid recovery and discharge. This includes effective education and interaction with patients and families who should have an understanding of the patient's disease and know how to provide for continuing care post discharge.

Understanding and monitoring the timely scheduling of diagnostic studies and therapies, as well as the accurate perception of patient reactions, will reduce length of stay and cost to more acceptable levels. Establishing and maintaining collaborative relationships with physicians in planning care is vital to efficient, effective health care. Jointly discussing a plan of action in diagnosing, treating, and planning for discharge of a patient will facilitate more timely discharge.

The continuing need to reduce length of stay and nursing cost has implications for staff mix. High nursing costs may introduce the potential for considering a change in staff mix to a high volume of non-professionals, reducing salary costs and downward delegating professional functions. However, as length of stay continues to decrease, patient care needs are compressed into shorter time frames resulting in an increase in the intensity of need. Utilizing lesser prepared individuals to provide for these needs may jeopardize the safety of patient care and may be more costly on a long term basis.

Nursing organizational structure and care delivery systems also have impact on length of stay and nursing costs. Both areas should be considered when addressing the need to reduce length of stay and cost. Flattening the nursing organizational structure may provide for more cost-effective care by re-directing "over head" dollars into direct care.

The care delivery system should be reviewed for cost-effectiveness while achieving care outcome goals. It is essential to be able to match the level of care need with the appropriate level of personnel. Flexibility in staffing patterns may need to be initiated to accommodate variences in patient care need. We may not be able to commit to a delivery system because it is the "in thing to do."

After considering those issues related to the need to decrease length of stay and nursing costs across DRG's, the volume of specific DRG's and related nursing costs should be considered, along with the per cent of the DRG cost that nursing represents. The nursing management reports may indicate that nursing costs are high for a specific DRG when compared with the standard. The number of cases, however, may be very low. The financial impact in this situation may not be great enough to take further action. For example, the nursing costs may be $50.00 over the average in a specific DRG. However, there may have been only two cases resulting in a $100.00 loss. Another DRG may be only $10.00 over the average nursing cost, but the volume of this DRG is 300 cases with a resultant loss of $3000 for the DRG. The latter DRG would require action, whereas the former may not.

High volume DRG's demonstrating very favorable nursing costs, as well as overall costs, may become apparent in the management reports. A hospital decision may be made to maximize the impact of these DRG's by moving toward specialization in the specific areas. Such a decision will have additional impact on the hospital and nursing by introducing the potential of altering staffing patterns to provide for specialization, as well as identifying the need for providing staff with education to function in the specialty area.

The management reports may indicate that for a specific high volume DRG, the length of stay is equal to or below the state standard, but that the nursing costs are well above the standard nursing costs. Additionally, the management report indicates that the nursing costs represent a portion greater than one half of the total cost of the DRG. Obviously, a change must occur to reduce that cost. The nurse administrator may decide that a review of the standards of care for that particular DRG is necessary to reduce that cost to an appropriate level.

Relative Intensity Measures and the related nursing management reports provide information which potentially has greater impact on administration and acute care. Utilizing that data, which quantifies nursing activity and costs, nurse administrators are able to analyze and make decisions related to cost effectiveness in the areas of:

- Organizational structure
- Staff mix
- Care delivery systems
- Staff education
- Non-nursing activities
- Specialization
- Standards of care and patient classification.

Additionally, the mechanism is established to itemize nursing on the patient bill and to identify nursing as a revenue producing center.

Considering the tremendous impact of these decisions on current and future hospital operations, it is essential that the nurse administrator function at an executive level within the organization, collaboratively planning future direction with the medical staff and governing board.

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FEDERAL VIEW OF RIMS AS A MANAGEMENT TOOL

Cynthia K. Mason

The development of the relative intensity measures (RIMs) for nursing is the first step in increasing sensitivity to the consumption of nursing resources. Traditionally, the allocation of nursing costs has been correlated with room and board charges, a standard amount per day depending upon the type of hospital unit. However, the introduction of case-mix into the Federal hospital payment methodology has highlighted the diverse distribution of resources across varying types of patients. The type and amount of resources consumed depend upon the medical and demographic characteristics of the patient. The most significant of these resources is nursing, accounting for approximately 35 percent of all hospital costs.

Given the current emphasis on equity in payments and on the provision of financial incentives to encourage efficiency in hospital management, the study of nursing resource use can provide significant information to assist the Medicare program and the hospitals in meeting these objectives. First of all, the allocation of costs among the 467 DRGs is determined according to each DRG's cost weight relative to all others. The nursing component is a significant factor in the value of those weights. However, at the present time, nursing costs in the Medicare prospective payment system are distributed across the DRGs strictly according to the average length of stay for each DRG. No other variables are considered in assigning nursing costs. Further research in nursing resource utilization could indicate a need for revision of those weights.

The study of nursing resource use may also highlight heterogeneity within the DRGs. As an example the current RIM methodology does not strictly adhere to the DRG classification scheme in terms of the major diagnostic category groupings. Further study in this area could indicate a need to redefine certain DRGs in order to improve their ability to predict actual resource use.

Just as importantly, the study of nursing resource use could prove to be an invaluable tool for hospital managers. While it has been widely recognized that the bed size of a unit is not necessarily a valid predictor of staffing requirements, up to this point, no definitive measure of staffing needs has been developed. However, not only can the study of nursing resource use indicate the amount of nursing resources required for a particular area of the hospital, but it can also indicate the proportion of professional and auxiliary staff needed. Improving efficiency in hospital management is often considered synonymous with reducing costs. However, the real focus should be on using limited resources to the greatest advantage. A hospital's ability to budget and to plan could be greatly enhanced.

The value of the study of nursing resource use is not restricted to the economic considerations of assessing past and current cost allocations. More research is necessary to determine the role that nursing does and can play in influencing the outcome of hospitalization and improving the efficiency of treatment rendered. Nursing intervention in preventing complications can play a major role in reducing length of stay and the accompanying resource use. By the same token, early detection of complications and comorbidities through nursing assessment can expedite treatment of emerging problems. Thorough discharge planning can improve the long-term outcome and significantly reduce the need for readmission. In summary, nursing can improve not only the cost effectiveness of hospitalization but, more importantly, the general quality of hospital care rendered. While all of these factors and more were recognized long ago, little has been done to determine the extent to which nursing can influence care and the areas in which nursing can play the greatest role. Identifying nursing costs by type of patient is a definite step in that direction but much work remains to be done.

The implementation of the Medicare prospective payment system based upon DRGs has highlighted the need for nursing research and has, at the same time, provided a mechanism in the form of the DRGs for studying nursing resource use. While the agreed upon objective is to make the most efficient use of nursing resources, anyone attempting to devise a means of achieving that objective must overcome several obstacles. Of particular concern to the Medicare program is that the research findings have the potential for national application. Although overall hospital resource use by DRG has been found to be constant across the country, the types of resources used have been found to vary. For example, length of stay is higher on the east coast while ancillary utilization is greater on the west. The question that remains is whether nursing practice varies by geographic region and if so, for what reason. Going a step further, the question to be asked is how patient outcomes vary according to the type and amount of nursing intervention. In addition, the type and size of a hospital could have an impact upon study results and any research design would have to include a representative sample of facilities. Last but by no means least, the research design must be feasible and have clearly stated research objectives. Nursing research requires the willing commitment and cooperation not only of nursing professionals but also, in many cases, of patients and other hospital personnel. Researchers must have the capability to compile and analyze the data, distinguishing between trends and aberrant cases. In establishing the study objectives, researchers must have a thorough knowledge of the area, an appreciation for the complexity of the issue to be addressed, and a clear idea of how their research findings will enhance the state-of-the-art.

The New Jersey nursing study was funded by the Health Care Financing Administration as part of the original contract with the New Jersey Department of Health to develop a DRG hospital payment system, the end result of which has been a methodology for apportioning nursing costs among DRGs in the State, and we are continuing to support work in the area of nursing research, particularly as it relates to the Medicare prospective payment system. This fall, we awarded an 18-month grant to the American Nurses Association to conduct a pilot study of nursing resource utilization within DRGs in order to examine what role severity of illness does play in nursing resource consumption. The focus of the effort will be on the development of a valid measure of nursing severity with data collection and empirical testing to be conducted at one hospital. The results of this pilot study will be used to determine the feasibility and desirability of expanding the study to additional sites.

In conclusion, the DRG prospective payment methodology emphasizes the need to efficiently manage hospital resources. More specifically, it poses a new challenge to the nursing profession to further identify, define, and enhance its role in the delivery of medical care.

General Session 3

AN INDUSTRY VIEW OF DRGs

Jack W. Owen, American Hospital Association

The DRG system is not a magical, mythical payment mechanism which is going to bankrupt hospitals or make hospitals wealthy. Its merit rests not in the DRG calculations but rather in its approach to pay a price and induce an incentive system in the health care industry. Once the concept of moving from cost to pricing was established, the mechanism for setting a price became paramount. If funds were unlimited, the price for a unit of service, such as a day in the hospital, a surgical operation, or any other designated unit could well have been used. But funds are limited and thus it became necessary to define a product, that is, a diagnosis, as the health service the government would buy for its beneficiaries. The New Jersey experiment provided evidence that pricing by case or diagnosis could be done and more importantly it changed hospital behavior. Hospital managers are no different from any other industry managers, they manage within the environment in which they live and with the resources available to them. However, unlike other managers, the hospital does not have the luxury of setting the price for the product nor is it set by a regulator such as a public utility. The challenge to the hospital industry is to manage within a price struck by the Federal Government based on a limited pool within the Trust Fund. As long as that price is fair and the hospital can provide the quality necessary for the product delivered, the hospital manager will see to it that behavioral changes needed will occur within the established price.

By establishing a price on the product, the hospital must now know what resources are necessary and unnecessary to stay within the price guidelines. It forces a much closer relationship with the physician, who admits, orders, and treats the patient within the hospital. To be successful under this new pricing scheme, the physician must understand how it works and his role in the use of the resources available. Experience in New Jersey has demonstrated that those hospitals which worked closely with physicians have reduced length of stay, used less health resources and reduced the trauma connected with the physician's concern of interference in his care of the patient. The hospital manager must weigh carefully the productivity of the non-physician staff and make decisions on the management level for cost reductions which in the past may have been passed on in a cost reimbursement system. Because of the socio-economic function of hospitals, concern has been raised that hospitals will forget their mission of caring and replace that mission with one of making a dollar. This dilemma is not easily answered, for hospitals cannot turn away the injured person at their door because they can't pay the price. Even utilities have the power of turning off water, phone service or electricity to the non-paying public. Without the ability to set the price per DRG, and regulations not allowing Medicare to participate in the cost of care for others, the questions of hospital's ability to serve their social mission may be well grounded.

If the Medicare DRG system is to work effectively, the hospital must be assured of a fair price. If the price established is below the fixed costs of an institution, no amount of management skill or physician cooperation will enable that hospital to continue to care for patients. While it is true the hospital may be forced to seek revenue from other patients to make up the Medicare loss, it was never intended by the framers of this law to put hospitals in the position of being tax collectors for a social program. If the price cannot be set fairly because of budget restrictions in the Trust Fund, then those beneficiaries must share in the fair price of the program.

What hospitals are most concerned about is fairness and removal of uncertainty. And well they might be! With the program only two months old, we have seen Congress propose a freeze on all Medicare prices, a limit of a 4% increase in the price rates, and the removal of the 1% technology factor in future years. Any one of these proposals, if adopted, would change the best laid managerial plans for providing an acceptable level of quality care. In addition, we have seen Congress also offer amendments to change specific DRG prices in a capricious and arbitrary fashion.

Equally important are the regulations which govern this new program. The issues of payment for outliers, the area wage index, the geographical lines which separate hospitals in the same trade area, the definitions of regional and national referral centers, the squeeze on increase in admission, and a host of others all point up the uncertainty of how hospitals will have their prices established. The issue of how capital will be included in the price not only has hospital managers worried, but the bond market as well.

We are on the right track; behavioral changes will take place in the health care system. What we need now is assurance of a fair pricing policy, not one changed at every Congressional whim, the removal of uncertainty by consistent and fair regulations, and enough time to work out the glitches in the system.

INDUSTRY'S VIEW -- IMPLEMENTATION STRATEGIES AND INITIATIVES

Michael D. Bromberg, Federation of American Hospitals

The Medicare prospective payment system will cause a change in provider behavior greater than any change we have seen since Medicare began. The clear message from Government to hospitals in the 1960's and 1970's has been erased. That message was a commitment to increased services delivered by more providers to more elderly and more poor at the taxpayer's expense.

While politicians continue their rhetoric about access and commitments to deliver services, government's new message to hospitals is that we are expected to restrain expenditures by cutting back on the increase in intensity of services per patient.

This new signal is not yet understood or supported by the public. Every public opinion poll indicates that society wants cost containment without sacrificing availability of services or new technology. Government knows that is impossible but won't say so to the public.

For there to be a noticeable reduction in the inflation-adjusted growth rate in hospital spending, the following three issues must be addressed:

- First, admissions and length of stay, especially among people 65 and older, will have to decrease. Health Maintenance Organizations (HMOs) achieve their savings not through lower hospital costs per day, but through lower admission rates. This past year, hospital admissions of age 65 and older patients rose 7 percent while admissions of under age 65 dropped 2 percent.
- Second, does the intensity of care we give chronically ill people have to be cut back? This would mean that certain services which have some positive medical benefit to a patient, but are uneconomic from society's standpoint, may have to be foregone. Health spending is extremely concentrated among a small number of people who are very sick; 1 percent of the population accounts for 25 percent of health care spending in any one year, and 10 percent of the population accounts for about 70 percent.[1-6] Therefore, even with lower hospital utilization, savings will be disappointingly small unless ways are found to reduce the cost of treating people who are exceptionally ill.
- Third, new technology has to be introduced which lowers the cost of treating catastrophic illness.

Creation of the conditions that lead to a lasting reduction in the growth rate of hospital spending requires much more rapid technological advance and far greater changes in health policy and public attitudes than have occured to date. Both physicians and patients have to be given financial incentives to contain hospital costs through such things as the tax cap on health benefits and mandatory Medicare vouchers. Lowering the costs of treating the very sick is directly contrary to what the public wants, namely more transplants and more replacement parts. These kinds of procedures, made possible by advances in drug therapy, are effective but quite expensive -- often six figures per patient. Technology has given us the ability to do more for the very sick than we are willing to pay for. What results is an ethical question hiding behind economic skirts.

In short, absent much more radical changes than have been contemplated, chances are that the inflation-adjusted growth rate in hospital spending may slow down temporarily, but health care costs will continue to grow faster than the gross national product (GNP).

Even though we support the new Medicare system, these observations give me serious reservations about its overall impact on the problem. On the one hand, unmet expectations about the savings it will achieve could lead to disillusionment and a potentially harsh backlash. On the other hand, prospective payment is far better than the cost-based reimbursement system with ceilings on total payment which it replaced. Prospective payment is a better system if the rates are fair and equitable, but if set too low or not revised often enough in light of technological changes, they could adversely impact quality and allocation of resources.

As an example, let us assume that a diagnosis-related grouping (DRG) system was in place in 1966 when Medicare began with annual increases in rates fixed at market basket plus 1 percent instead of the average annual increase of market basket plus 4 percent of the last 15 years. How would providers have responded to that different message? My guess is that the number of intensive care and coronary care units in place today would be about half their number, the number of modernized facilities would be half their number, the number of computerized axial tomagraphy (CAT) scanners, burn units, and nuclear medicine units would be far less than their current numbers, and the impressive 15 to 20 percent reduction in deaths from heart disease and other causes of hospitalization would be far less impressive.

The provider community will respond to Medicare's DRG rates in ways which are not that difficult to predict. How society will respond is less clear but will depend on whether the rates are fair and revised in time to assure the continued quality of services and access to care that Americans have come to expect.

Hospitals will understand the new message as one which encourages them to take the following actions:

- Limit the growth in hospital employees.
- Limit wage and benefit increases.
- Reconsider capital expenditures which increase operating expenses.
- Gonsider specialization in those DRGs which are economical.
- Urge physicians to order more pre-admission testing to reduce length of stay and inpatient tests.
- Urge physicians to order fewer ancillary tests per patient.
- Make arrangements with alternative, less expensive providers for post-hospital care.
- Seek price discounts on supplies.

Every one of the eight actions listed here produces a common benefit to hospitals. They produce cost-containing dollars which increase the bottom line profit or surplus. Any of these actions taken under the old law would have only decreased revenues and added nothing to profit or surplus.

To the extent hospitals are able to achieve these eight cost-containing approaches, the impact on non-Medicare patients and payors will be substantial. Those who predict more cost shifting are assuming that hospitals will not respond to the new message and will simply suffer large losses on nearly half their business while raising prices to the other half. That scenario underestimates the impact of Medicare policy on total costs and also underestimates the reluctance and resistance of other payors to further price increases.

Some recommend an all-payors system presumably run by a government agency. If the problem were monopoly pricing, this would be in order. But it is not. The real problem is too much demand, which an all-payors system does not affect. Growth in the rate of hospital admissions and the volume and sophistication of services accounted for over 50 percent of the increase in hospital spending above general inflation. That demand was fueled by a tax system which subsidizes health insurance without limit and by the absence of copayments which restrain utilization. All-payors systems do not address these basic causes of soaring demand.

Besides failing to deal with the central problem of too much utilization, an all-payors system would make things worse. Here is a short list of adverse side effects:

- All payors, also known as state rate setting or price controls, would stifle delivery system innovation, the best hope for greater cost effectiveness.
- There is no reason for price competition under price controls.
- Bureaucratic preferences or political clout would determine who gets capital, not management performance. Decisionmaking would become politicized and centralized.
- The consumer is the ghost at the banquet; collectively they have no say in how or where resources are allocated.
- Future patients get shortchanged because the political pressure for "savings" forces hospitals to strip maintenance and depreciation reserves to cover operating expenses. This causes them to run in the red and eventually turn to taxpayers for a bailout.
- The evidence is strong that rate setting does not improve hospital efficiency. There is general agreement that cost-based reimbursement is not conducive to efficiency but a recent study examining the effect of rate-setting programs on efficiency showed that there were "no systems where reimbursement received by an institution was not largely determined by a hospital's own costs...Rate setting in general has not been successful in influencing the distribution of hospital expenditures per admission and per day. States with the policy of trying to eliminate technical inefficiency have not been any more successful than those without this policy."[7]
- Finally, the "all-payor element" should prove to be unnecessary in a system that is driven by the new Medicare incentives. I suspect that private insurers, business, and other payors will negotiate their own prospective payment plans with hospitals, relieving the pressure for state or local governments to install price controls. The only pressure for such utility-type regulations is likely to come from those hospitals which are unable to contain costs and view state systems as a way out of the Medicare rate structure.

The distribution of Medicare payments among States and the allocation of hospital resources will be strongly influenced by the number of state rate setting systems which seek exemptions from the Medicare rates. The New York, Maryland, Massachusetts, and New Jersey waivers, grandfathered by the legislation establishing Medicare DRG rates, have already cost hospitals in most other states hundreds of millions of dollars by reducing DRG rates to permit the exemption for substantially higher rates in those waivered states. When those waivers expire and those states apply for renewal, there will be a political battle in which hospitals in non-waiver states oppose further waivers on the ground that the law prohibits Medicare paying more than it would under the DRG system and that those additional payments should be used to increase DRG rates for all hospitals.

The Medicare trust fund crisis will force a public debate on society's obligation to finance needed health care services. One aspect of the debate will be a test of the public's willingness to find new sources of revenues, such as an alcohol and tobacco tax, to meet the government's commitment to assure the elderly access to medical care. Those new revenues are essential if we are to avoid a reduction in the level of quality care our nation expects. With adequate funding from new revenues and with adequate DRG rates, hospitals can contain costs for all payors and still provide a quality product.

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General Session 4

IMPLEMENTATION STRATEGIES AND INITIATIVES

Jeffrey A. Warren

Thank you.

I believe that the principles of Fairness, Equity, and Due Process are fundamental to the operation of the New Jersey DRG system in place today. In a sense, all of the strategies and initiatives that we have encouraged to insure the system's success have been based on these underlying principles.

Let me give you a brief overview of the system that illustrates these principles in action.

As you know, by statute and regulation the New Jersey system recognizes the need to assure equity among payors. As well, the system recognizes the need to reimburse inner city hospitals for those individuals who either do not or cannot pay their bills; this is accomplished by treating uncompensated care as a financial element.

Also in the interests of Fairness and Equity, we acknowledge that the case mix at one institution may differ from another, and that teaching costs vary from hospital to hospital, and labor costs vary from region to region. To compensate for these variations, the system uses DRGs, the stratification of teaching categories, and the application of regional labor proxies.

Along the same lines, the state recognizes that implementation of the system as complex as ours will require hospitals to staff up in certain areas, and improve management systems in others. Thus, we reimburse hospitals for costs associated with implementing the DRG system.

Hospitals, upon entering the system for the first time, may seek a working cash infusion and other related costs. When the Department of Health recommends denial of such requests because it deems them unnecessary and inappropriate, the hospital may exercise its privilege of Due Process by appealing the matter to the Commission.

The examples I have given illustrate some of the unique characteristics of the New Jersey DRG System. I would like to address certain universal features of a DRG reimbursement system which can be used to help hospitals productively implement the system in any state. Any strategies or initiatives developed should be capable not only of meeting today's needs, but also of providing for future considerations such as long-range planning and the rolling stone of medical technology.

In order to give you the Commission's perspective on how hospitals can best plan to meet the challenges of the DRG reimbursement system, I should first give you some background on the Commission.

The Commission was established by the legislature to preserve and protect the public's interest relative to its right to access to high quality, reasonably priced health care services. Thus, the Commission has been given responsibility for equitably allocating limited resources within the hospital industry, while at the same time minimizing the burden that is placed on those who must pay. When we look at increasing hospital costs, the enormous complexity of the health care delivery system, and its powerful interest groups, we can readily see why an independent regulatory agency such as the Rate Setting Commission is necessary. It is our function to balance these diverse interests, and, in so doing, produce a result that serves the needs of the public.

Established under Chapter 83, P.L. 1978, the Hospital Rate Setting Commission is a five member body consisting of the State Commissioner of Health, the Commissioner of Insurance, two public members and a hospital industry representative. As a quasi-independent agency, our Commission was established in order to provide an open public forum for reviewing and approving rates of reimbursement for all hospitals and payors. The powers of the Commission, relative to its legislative and regulatory mandate are comprehensive. For example, we have the authority to consider and act on hospital-specific issues, and on matters affecting the industry as a whole. Through our procedural and methodological regulations, the Commission may review the necessity for providing hospitals with a working cash infusion, depreciation on major moveable equipment, capital facility allowance, reimbursement for various operating costs, and other adjustments as deemed necessary and appropriate. In addition, the Commission reviews and approves letters of comfort that are designed to reassure prospective purchasers of hospital bonds that principal and interest costs will be reimbursed relative to capital investments.

It is the Commission's responsibility to promote the financial solvency of hospitals which are properly utilized and which deliver efficient, effective, appropriate and necessary health care services of a high quality. This bold mandate is to be accomplished in tandem with the equally important public goal of hospital cost containment. It is the delicate balancing of these objectives, which we believe are not mutually exclusive, that is truly at the heart of the Commission's responsibilities. The debates and discussions that take place before the Commission, on either hospital-specific or generic issues, require the Commission to consider the impact of its decisions relative to quality, success, need and affordability.

The value of an independent agency to hear and act on issues in dispute under a DRG type system is immeasurable. We have found that our ability to respond to unique situations, resolve matters in dispute and promote the speedy resolution of systems problems to be beneficial to all participants.

In looking at the issue of appeals, I would like to contrast the federal system with the New Jersey system. Obviously the appeals mechanism is but one of a number of differences between the two regulatory programs. An integral part of most regulatory systems is an independent commission which is generally guided by principles of administrative law in its review of exceptions.

The Federal Prospective Payment System has two commissions - The Provider Reimbursement Review Board (PRRB) and the Prospective Payment Assessment Commission (PPAC). The PRRB, which will have general jurisdiction over hospital appeals arising under PPS is a sub-branch of the Department of Health and Human Services where the secretary has the authority to reverse, affirm or modify a decision of the board on his or her own motion. This power has been delegated to the administrator and deputy administrators of HCFA. There are, however, certain restrictions on what can be heard by the courts, should an adverse decision be taken. For example, under the Federal Program there is no administrative or judicial review of (1) the establishment of the diagnosis related groups, (2) the methodology for the classification of discharges within such groups and the approximate weighting factor thereof, or (3) the neutrality computation. Once a national standard is established and hospital specific costs are removed form the rate setting equation, the significance of the types of appeals traditionally heard by the PRRB becomes unclear. What is clear, however, is that the Federal Program will have a limited appeals process as compared to New Jersey's system which permits hospitals to seek relief in limited areas under defined circumstances. It is fair to say that the regulatory system has not yet been invented which operates totally without the need for human intervention. In this regard, one measure of a regulatory system is its ability to address exceptional circumstances and ask the right questions.

In this respect, the DRG system can help to define what exceptional circumstances are and what questions should be asked.

The use of the DRG system for reimbursement purposes has been a tremendous asset for the Commission. The evaluative data capabilities of this system provide a valuable resource as the Commission deliberates whether an institution's request for additional monies is warranted. Through the use of DRGs we have been able to identify whether a particular hospital is efficient or inefficient relative to its peers. This analysis can be refined by DRG, by unit cost and taken even further if necessary.

The value of this information in determining a rate matter is substantial. The Commission can assess a hospital's performance not only against itself, but also against other institutions. We then expect that hospitals with significant inefficiencies will take necessary corrective action. By phasing in this system over a three year period, we believe that institutions have been given an adequate amount of time to fully address specific problem areas.

What we have been saying to hospitals under this system is simply this; we will reimburse you a certain amount of money to treat a certain type of patient. If you can treat that patient for less money, you get to keep the difference. If it costs you more, making up the difference is up to you. Clearly, the DRG System forces hospitals to identify their winners and losers. From our perspective, the extent to which institutions can turn their losers into winners, and/or divest themselves of inefficient services, will determine whether or not their revenue needs are adequately met. Therefore, we believe that the DRG System can encourage appropriate Regionalization of Services, which is clearly a desirable effect.

I'd like to conclude by discussing some major issues and concerns I see approaching in the not-too-distant future. Specifically, our system will have to develop strategies and initiatives to deal with the impact of changing technology, and the coordination and rate-setting, planning, and capital expenditures.

Let me give you an example of the appeals recently heard by the Commission relative to changes in technology.

One particular hospital petitioned the Commission for consideration of the capital costs associated with a new piece of advanced diagnostic equipment, a Dyna Camera. Put simply, as physicians utilized the technology over a period of time, they were able to increase the level of diagnostic certainty which could be obtained in a certain percentage of cases. By relating the equipment to DRGs, over time, the hospital and its physicians were able to detect a gradual shift from surgical to non-surgical patient management as physicians were able to avoid exploratory surgery in various instances. Since non-surgical treatment is less risky and generally less costly than surgical treatment in the relevant group of cases, the hospital was able to persuade the Commission to provide funds for this particular capital investment. In a broader sense, the exercise required the parties to focus on medical practice issues as inevitably linked to reimbursement issues. As medical technology advances accelerate, regulatory systems will be forced to deal with the complex relationship between the costs of new technology and the associated health care benefits.

In regard to the second issue - tying rate setting to planning, there is no question that there is a tremendous need to bring the two functions closer together. In a time of limited health resources we can hardly afford to allocate monies to institutions wishing to renovate or expand facilities deemed to be underutilized, inefficient, or unnecessary. Before investing dollars in future capital expansion projects, hard questions must be asked. The data provided us by the DRG system has tremendous potential in helping to properly allocate capital dollars where the need is greatest.

THE PPS INCENTIVE STRUCTURE--HOW WILL THE NATION'S HOSPITALS REACT?

Allen Dobson, Health Care Financing Administration

INTRODUCTION

My talk today concerns the incentive structure of the Medicare Prospective Payment System (PPS) and how PPS reimbursement incentives might alter future hospital behavior. In a certain sense, the most encouraging aspect of my talk is the degree to which it is unnecessary, given the contents of the conference talks we already have heard. I find it very encouraging that the general parameters of the PPS incentive structure are so well known and that there is such a high degree of consensus on the potential impact of these incentives on hospital behavior. Papers thus far presented, typically have set forth the notion that the PPS dramatically changes hospital payment incentives and have indicated a range of possible behavioral adjustments that might result from these changes.

A precondition to the occurrence of behavioral adjustments in the hospital industry is the responsiveness of hospital administrators and managers to altered financial rules. To believe that such responsiveness is both possible and probable, one must first believe that hospital managers respond to incentives much like other managers. To what extent do hospital managers behave much like other business managers?

Several years ago, I enrolled in a management course. I must confess that I thought that my management problems as an economist and an evaluator of social programs were sufficiently different from those of other government and private-sector managers and while the course would be a somewhat entertaining diversion, it would be somewhat irrelevant to my "special" needs. When I learned that the case study dealt with the daily business practices of a used car lot manager, I was even more skeptical, to say the least. However, by the end of the first hour, I started to see similarities. By noon, I had learned the course's most important lesson--basic management principles are applicable to all manner of business and government endeavors. The argument that certain of us are "special" and exempted from basic management concerns is simply not very compelling.

To make this point more clear, an analogy might be useful. Is the hospital sector currently "different" because of distortions in previous retrospective cost-based reimbursement schemes or because the hospital sector is in some sense an exception to typical relationships of managers to economic incentives?

Imagine, if you will, the lawnmowing industry. You know the kid down the street, perhaps even your kid, who shows up every so often to mow your lawn? What do you suppose would happen if a National Lawn Care Administration (NLCA) was created by the Congress; all people over 65 were designated as Federal beneficiaries; and program reimbursement was based on principles of retrospective cost-based reimbursement? Do you think the kid down the street would continue to use his lawnmower that barely made it through last summer, or would he use one that reflected the latest technology no matter how expensive, untested, or even trivial? Would you expect the commercial lawn care firms to continue to show up in their unpainted, 10-year-old pickup trucks? Somehow, I don't think so! Furthermore, once the lawnmowing industry had adjusted to the post-NLCA era and lawn care started to absorb noticeable proportions of the Nation's Gross National Product, how simple a matter would it be for the Nation to control the rapid rate of increases in lawn care expenditures?

While this analogy is simplistic, is it really all that wrong? Reimbursement incentives are powerful. They clearly affected the hospital industry in the past and will continue to do so in the future. But, the new rules are very different. The PPS represents a radical departure from the past.

OVERVIEW OF PPS INCENTIVES

The PPS's primary purpose is to change the incentives structure in the health care industry. As stated in the Department of Health and Human Services, December 1982, "Report to Congress," "When hospitals are paid in a different way, it is reasonable to expect that their behavior will change. Indeed, changing hospital behavior is the purpose of this initiative." Through the implementation of Diagnosis Related Groups (DRGs), the Medicare program will move from using a retrospective payment system to using a payment-for-product system.

The primary motivating force behind the PPS adjustments is that Medicare reimbursement is now being based upon a set, known price for a given product. Payments have been divorced from the concepts of retrospective cost-based reimbursement. Hospitals are changing their fundamental operating question from, "How much can be provided?" to, "What will known hospital revenue support?" Hospitals are no longer able to do all things for all patients without regard to the constraints of fixed prices for their products.

The first reaction to a new regulatory program usually is to alter it or even to get rid of it entirely. The analysis in this discussion is based upon the assumption that the DRG program will be kept intact and that it will operate as originally designed. This assumption, of course, does not preclude changes and fine tuning to the PPS.

For the purposes of this talk, I have somewhat arbitrarily categorized hospital responses to the PPS into immediate and long-run adjustments. Immediate adjustments to hospital behavior discussed are: 1) data base construction; 2) administration; 3) organization; 4) hospital-physician relationships; 5) volume; and 6) quality of care. Longer-run adjustments include: 1) setting objectives for long-term behavior; 2) moves towards competition; 3) capital investment strategies; 4) technological adjustments; 5) specialization; 6) discussion of all payor systems; 7) supply effects; and 8) consideration of ethical and legal questions. The time frame in which these adjustments will occur is somewhat uncertain. However, my impression from initial PPS program implementation activities and conferences such as this, is that hospitals are moving very quickly to change the ways in which they manage themselves and conduct their business. That is, hospitals are becoming much more business oriented.

IMMEDIATE ADJUSTMENTS

Data Base Construction

The PPS will serve as an impetus for developing new data bases that can be used as administrative planning tools for controlling both production costs and quantities being provided. Most importantly, medical records will be linked to financial data. The medical record has now become the hospital bill. Medical records staff will be augmented in order to improve coding procedures since the medical record has become so important for hospital reimbursement. Thus, a byproduct of the PPS is improved hospital data that can be used by both the hospital and others who are interested in hospital behavior. This should improve overall hospital accountability. Hospitals also will keep close tabs on the Health Care Financing Administration (HCFA)/intermediary DRG assignments. In turn, HCFA will keep close tabs on hospital coding procedures so that "DRG creep" does not become an institutionalized response to the PPS. The likely result of these changes in the hospital data generating processes will be a move towards greater automation. Eventually, data bases are likely to be created for tracking both intermediate and final product production costs.

These kinds of data building activities will necessarily alter the contents and use of management information reports. Resource use will be categorized by DRGs across physicians, hospital departments, etc. The financial statements of hospitals also may be altered to reflect surpluses and losses by DRG categories. In addition, regional data on a hospital's market share by DRG category will be useful for making decisions on ways to increase admissions in certain areas or ways to phase out a service entirely.

Ultimately, the PPS may be able to promote the effective management of hospitals by providing more specific and more accurate, individual hospital information as well as cross-hospital comparisons. Hospitals will be able to compare their delivery of a product with that of others in the region as well as the entire Nation.

Administration

Given more powerful data and altered incentives, hospital administration will surely change as a result of the PPS. At first, task forces of service departments might be formed for finding ways to reduce departmental costs. The task forces for the first time might integrate the abilities of hospital administrators, physicians, nurses, and medical records staff. Physicians will be encouraged to review standing orders and length of stay. This may involve elimination of automatic/routine tests. In addition, limitations may be placed on teaching resident test orders--possibly involving prior approval.

Administrators also may opt for cutting back output in cetain areas by eliminating some fringes, such as cafeteria allowances, patient education, and social services. The general test will probably be, "to what extent does peripheral activity support the primary concerns of patient treatment within the hospital?" Staff functions, numbers, and salaries may be reviewed to possibly find less expensive staff mixes for effective hospital operation. Engineering studies also may be ordered to determine least cost production techniques by examining the mixture and cost of the intermediary products. More cost-benefit analysis may be applied by the Joint Commission on Accreditation of Hospitals to hospital self-regulation in areas such as safety codes. Administrators will also make hospitals prudent purchasers. Hospitals are likely to continue the trend toward the formation of purchasing groups in attempts to buy in bulk and for shopping for the lowest prices. No longer will increases in input prices simply be passed through to the Medicare program. Administrators will be examining every cost center in their hospitals, looking for reductions and greater efficiency.

As a result of such activities, hospital administrators will gain knowledge of DRG profitability, DRG by DRG, and make decisions accordingly. Not all DRGs will break even. For those that do not, efficiency of delivery and cost reducing technology will need to be examined. In areas where a community desires a money losing service be provided, the hospital may have to renegotiate its mission statement with the community or continue to provide the service at a loss (relying on profits in other DRGs to make up the difference). Those DRGs which are profitable for a given hospital will be expanded. As noted below, this will ultimately lead to DRG product specialization across hospitals. Thus, hospitals may eventually determine their output-mix based on relative profitability across DRGs.

Organization

Organizational changes may involve changes in the hospital corporate structures through horizontal and vertical integration. Hospitals may supplement some of their less profitable services through expansion of more profitable ones. For instance, they may find it advantageous to become involved in distributing and manufacturing hospital supplies. Horizontal integration may also lead to the increased consolidation of hospitals into for-profit chains and other forms of multihospital systems in an attempt to increase service volume and purchasing power and reduce administrative overhead. In addition, hospitals are likely to offer other forms of care through vertical integration with home health agencies, skilled nursing facilities, clinics, etc. Since services delivered in these types of facilities are not subject to the PPS, hospitals may find reorganizing in this manner effective for departments that might otherwise experience deficits.

Hospital-Physician Relationships

One of the most speculative areas in the implementation of the PPS involves the hospital-physician relationship. At present, there is no direct incentive for physicians to reduce expenditures. Indeed, there may be a disincentive since reduced length-of-stay implies decreased physician incomes. However, hospital administrators are likely to place great pressure on physicians to reduce length of patient stays and use of ancillaries due to the fixed price nature of the PPS.

A hospital's ability to gain physician cooperation will likely be enhanced by the expected increase in physician supply. However, the impact of this increase is a good-news/bad-news situation, at best. The good news is that as more physicians enter the marketplace, markets are more likely to operate efficiently. The bad news is that more physicians will undoubtedly mean more aggregate expenditures. It is difficult to imagine a situation where a 30 percent or 40 percent increase in physician supply could lead to a comparable increase in market efficiency such that overall expenditures actually decrease. One would suspect that this makes our future work concerning expenditures control all that more difficult. On the other hand, increased physician supply may facilitate changes in hospital-physician relationships that will enable hospitals to operate more efficiently.

For instance, increased supply of physicians may encourage more physician competition. This increased competition could give hospitals greater flexibility in dealing with physicians. Along this line, hospital medical bylaws may be changed to increase hospital admitting priviledges for those physicians who exhibit cost control behavior. Physicians who continue with expensive practice patterns may be encouraged to leave! High-cost physicians might even be "laid off" in the future--creating an essentially unheard of condition, namely, physician unemployment. Hospitals may attempt to link changes in physician charges to changes in DRG rates. More positively from the physician's perspective, hospitals also may attempt to provide a financial incentive for physicians to change their behavior by offering them a share of DRG surpluses.

Aside from hospital management pressures, physicians themselves may encourage behavioral change through peer pressure, since "over" spending by one physician might result in the cutting back of services that can be offered by others. Such peer pressure could be exerted through management committees and expanded peer review. Peer review may have to deal with problems created by "expensive" physicians and resource constraints necessitated by the PPS budgetary limits.

It is anticipated that the new relationship between administrators and physicians will encounter some problems and perhaps even resistance at first, but will hopefully grow into a cooperative and productive relationship. To aid the hospital administrator and encourage additional physician cost-control behavior, a system of incentives may be devised to operate directly on physicians. HCFA is just now initiating studies to support eventual legislative proposals which will bring physicians directly into the prospective payment era.

Volume

The PPS is likely to change the volume of patients admitted into a hospital. This is generally thought to be a key weakness of the PPS, because cases are the unit of payment. As the number of cases increases, the payment to hospitals increases. To counter the potential for dramatically increasing admissions, HCFA will immediately monitor admissions patterns and overall hospital volume. As Professional Review Organizations (PROs) come on line, they too will participate in volume control. PROs will eventually create admissions profiles by DRG, physician, hospital, and region. The PROs also will review hospital records for determining the necessity of admission rises that appear unwarranted or are otherwise suspect. In addition, readmissions and patient transfers will be monitored. The New Jersey experience with DRG-based prospective payment suggests that admissions volume can be controlled. HCFA intends to work diligently to ensure that hospital admissions volume does not increase at a greater rate than is warranted by an increasing number of Medicare beneficiaries.

Quality

The one fear that has been most frequently raised about the PPS is that quality may be sacrificed. In fact, the incentives that have worked so well for maintaining quality in the past still remain. Physicians have always been the best line of defense to preserve quality, and this responsibility will continue. In addition to professional ethics as a safeguard, physicians, as well as hospitals, will be faced with malpractice suits if quality is sacrificed and patients will tend to avoid physicians that provide poor quality care. PROs also will exist to ensure that medical care is being delivered properly.

The PPS may result in improved hospital quality. With the incentives for specialization, there are incentives for providing more efficient and effective care. The sooner a patient recovers, the greater the surplus potential for a hospital. As shown in Professor Alan Entovan's work, higher open-heart surgery volume for a given hospital is associated with lower costs and fewer deaths. Less care may mean a reduction in unncessary care, not a diminution in quality of care. As we will hear tomorrow, analyses of State systems of prospective payment indicate that quality is maintained under such reimbursement programs.

LONGER-RUN ADJUSTMENTS

Setting Objectives for Long-Term Behavior

The PPS provides hospitals with long-run incentives to provide cost-effective services. This may involve making new long-term commitments to the community, which could necessitate altering other past commitments. The hospitals will need to reevaluate product lines and possibly consolidate services to ensure future survival. One way to force long-run changes in case-mix will be through altering staffing and capital investment patterns. To some extent, in the short run, the hospital's physical plant and labor mix controls case-mix, but over a longer time period changes in staff and equipment mixes will allow for modification of services offered.

Moves Towards Competition

Competition between hospitals will undoubtedly increase as a result of the cost containment incentives of the PPS. Shorter lengths of stay mean fewer bed days, all other things equal. In order to fill beds, hospitals will have to compete for patients. This "defensive competition" will lead to attempts by hospitals to lock patients into their care system through such devices as primary care networks, Preferred Provider Organizations (PPOs), etc. Thus, to a certain extent, the PPS incentives reflect a very paradoxical outcome. The PPS, which has been referred to as a "regulator's dream" may very likely foster competitive behavior that would have been very difficult to legislate more directly at this point in time. As we heard yesterday, such legislation may be forthcoming sooner rather than later.

Capital Investment Strategies

During the first years of the PPS, there will be little direct incentive to reduce capital investments. Hospitals will be reimbursed through a "pass-through" provision for whatever legitimate capital costs are incurred. At first glance, it may seem that expanding expenditures in "pass-through" categories (especially capital) is typically advantageous to a hospital from a financial point of view. It would seem that hospitals under the PPS are encouraged to substitute capital for labor expenditures, even at the expense of overall economic efficiency. However, there are indirect incentives that are operating to limit this. Whatever capital investments are made today will have operating expenses tomorrow. These operating expenses will be confronted with fixed PPS reimbursement levels. Thus, there is a self-limiting process to capital expansion in that increasing operating costs and the uncertainty of future capital markets could very well lead to constrained capital spending in the near future. Congress has directed the Department to include capital payments into the PPS. After this is accomplished, overall incentives will be more consistent with the objectives of cost constraint.

Technological Adjustment

The PPS provides broad incentives to hospitals for implementing cost-reducing technologies. Those that are cost raising, for the most part, will be discouraged. This general rule will apply most of the time, but exceptions are anticipated. Under the PPS legislation, there is a forum for medical technology assessment involving a 15-member Commission under the Office of Technology Assessment. As treatment improving technology emerges, the Commission will review the price of the technology and its quality. If the additional cost is seen as warranted, the Commission will recommend its cost be incorporated into the DRG rate. However, if the technology is for extremely limited use or not seen as efficacious, the Commission may not request any DRG adjustment. A likely result of this incentive will be for hospitals to become prudent buyers of new technology. This may involve the sharing of expensive technologies between hospitals and result in the reduction in technology costs due to downward pressures on demand. Technology will continue to improve but cost reducing technologies will probably be stressed.

Specialization

The duplication of relatively rare and expensive services across hospitals in a region is discouraged by the PPS. In the long run, it is anticipated that even the most comprehensive hospitals will no longer be able to provide every kind of care for all patients. Regional hospitals have an incentive to work together through developing referral center linkages across hospitals specializing in various types of care. In some instances, each hospital in a specific region may choose to specialize in certain areas not covered by the other regional hospitals. This type of specialization will enable hospitals to capture economies of scale associated with expanding volume in specific DRG categories. The end result of this long-run hospital specialization could be that fewer services will be provided more frequently, more economically, and with reduced patient risk in any given hospital.

Discussion of All Payor Systems

There is an inherent incentive in the PPS for remaining payors to adopt the DRG reimbursement rates to the extent that payors not adopting the DRG rate fear that they experience higher rates as a result of future Medicare payment levels. States already having all payor systems (New York, Maryland, New Jersey, and Massachusetts) are being permitted to continue their reimbursement programs under the PPS as long as their Medicare expenditures are no higher than they would be under the DRG program. In addition, States desiring to establish an alternative system may do so under the same restriction of maintaining expenditures at an amount equal to or lower than those expected under the PPS. Some States, Pennsylvania in particular, are planning to expand DRG systems of reimbursement to their Medicaid programs.

At present, most States have adopted a "wait and see" attitude towards implementing all payor systems. States are waiting to see how other payors respond to the PPS implementation. Hopefully, hospitals' increases in efficiency will mitigate the need for, or perception of, extensive cost-shifting. There also remains a question over who will absorb the cost of uncompensated care. As time progresses, the impact of the PPS on these areas will be tested.

Supply Effects

In a broad sense, the cost containment incentive of the PPS is aimed at increasing hospital efficiency. This can be done as discussed earlier in this conference by James Heimarck of the Monmouth Medical Center in New Jersey. He stated that the State's DRG program has resulted in greater efficiency and lower operating costs in his hospital. However, there are hospitals that will experience fiscal problems due to the PPS. A 3-year phase-in of the PPS will provide hospitals with additional time to improve the financial management of the institution. In the long run, some adjustments to the PPS may be necessary to ensure survival of teaching hospitals, public hospitals, sole community providers, and others. In addition, there may be a need to provide adjustments for outliers and severity to ensure that hospitals will be able to continue admitting and treating such cases. Still, it is likely that unprofitable hospitals that continue to manage inefficiently will be forced to close. The political forces set in motion by such dislocation will, of course, be very powerful and constitute a test of the Nation's will to constrain costs.

Consideration of Ethical and Legal Questions

The PPS intensifies many existing ethical and legal questions and raises new ones. The PPS could provide incentives to avoid admitting "unprofitable" patients, such as those with severe cases of an ailment. Will these patients be turned away? If admitted, will they receive second class treatment? Will there be rationing of expensive new technology to Medicare patients? Will the "plug be pulled" at an early stage to conserve resources? These are difficult questions to discuss, but ones that surely need to be addressed.

In certain instances, the severity of illness will not be completely determined at the time of admission, thus, mitigating the problem of patients being turned away. (Higher DRG payments for more complex DRG cases also helps.) Once admitted, if a patient receives improper care (second-class treatment or rationing of technology), the physician and the hospital may be subjected to costly malpractice suits. Finally, untimely discontinuance of care would have to be ordered by the physician, who continues to have financial, ethical, and legal reasons to practice high-quality medicine.

The long-run ethical implications of cost containment incentives will need to be watched, but it is anticipated that the medical profession will continue to operate with its high ethical principals.

FINAL COMMENT

For better or for worse, the PPS is changing the incentive structure in the hospital care industry. Thus far, the hospital industry has projected a positive scenario of the impacts of the PPS. Will this be a self-fulfilling prophecy? If so, the PPS, through its numerous new incentives, is likely to perform in a manner beneficial to the entire health care system. Should this happen, it would be a credit to all those involved with the implementation and use of the PPS.

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General Session 5

THE IMPACT OF TEFRA AND THE SOCIAL SECURITY AMENDMENTS ON MEDICARE

Patrice Hirsch Feinstein
Associate Administrator for Policy
Health Care Financing Administration

When I was first asked to speak on this topic, it seemed well and good. Little did I know that TEFRA (Tax Equity and Fiscal Responsibility Act) would no longer be operative. So I am going to talk about aspects of TEFRA and the Social Security Amendments absent DRG's—or, in other words, everything else that has an effect on Medicare.

I would like to begin by addressing the status of the Medicare Trust Fund. I want to make sure that we all understand the status of the Medicare Trust Fund, because the TEFRA legislation and the Social Security legislation were enacted with that as a backdrop. I think everything that is enacted in the future must have the dire state of the Trust Fund in mind. Some people believe erroneously that, because the Social Security funding problem has been resolved, there is no Medicare problem. Unfortunately, that isn't the case. Before 1990, we will be spending more than we are taking in, and 1990 is just a few legislative years away. The deficit projected by the Congress and the Executive Branch in the Medicare Trust Fund by 1995 is hundreds of billions of dollars or nearly one and one-half times the entire Federal deficit today. That's the bad news.

The good news is that there are several possible solutions, and enough time to implement them. Some options are obvious, although somewhat simplistic and certainly not desirable. We could decrease expenditures or the rate of increase in expenditures by some 30 percent or we could increase the tax rate by two and one-half times what it is today. If we did the latter, we would be imposing that tax on an ever decreasing proportion of workers to retirees, down from 2.3 workers today for every retiree to 1.9. How many times can we go back to those workers, as the proportion of elderly grows? I don't know, but that would be an issue to grapple with in examining that option.

Others have suggested alternatives that we would prefer not to have to consider, but I want to review them with you because these options are being talked about. To reduce the number of eligibles, entitlement could be delayed, benefits could be reduced, or new procedures could not be covered. However, none of those is anybody's first, second, or third choices. An option that we think is perhaps a more viable way to go would be to redesign benefits. What we have done so far is to put emphasis on being a prudent buyer. We have no business considering other options until we have assured ourselves and the American taxpayer that we have squeezed out inefficiency in the system, that we don't have fraud and abuse, and that we are acting as a prudent buyer.

I think recent actions in health care financing legislation speak exactly to these issues. Congress enacted health maintenance organization provisions, an expansion of the benefits in that area, based on the belief that the HMO was a more efficient delivery system and was perhaps the way to go. Likewise, hospital prospective payment is designed with incentives that encourage prudent buying. A change in the way we reimburse for hospital-based physicians, enacted under TEFRA, was another attempt to encourage prudent buying. Congress also has enacted single limits on hospital-based and freestanding skilled nursing facilities and home health agencies. All of these are reimbursement reforms, without changing eligibility, without changing benefits too much, and without changing entitlement. To me, that says we are moving in the direction of being a price-sensitive purchaser.

We still have a lot left to do. Tax cap legislation, where we involve consumers by making them prudent buyers, is still something I think is ahead of us. But let's look back for a moment and see what themes are evident from TEFRA and the 1983 Social Security Amendments. We have moved away from recognizing a provider's actual cost in delivering a service and towards setting a fair rate for that service. That is the most historic and fundamental change in the Medicare program in 16 years. For the first time ever, through an upfront public declaration via the proposed rulemaking process, the Department of Health and Human Services will have to declare how much the Medicare program is going to increase prices paid for hospital services in this country. In the last session, Congress almost enacted prospective payment for laboratory services, with the same schedule to be applied to the outpatient setting, physician offices, or freestanding laboratories. And they have given us a mandate for prospective payment for skilled nursing facilities and expressed interest in developing DRG's for physicians. That's a movement away from recognizing the provider's actual cost in formulating reimbursement policy. Implicit in that is a rejection of the notion that high quality health care can only be purchased at 16-18 percent more each year.

Congress has enunciated the desire to set a fair price irrespective of setting. They have moved toward single limits for home health agencies and skilled nursing facilities, irrespective of whether they are hospital-based or freestanding facilities. As I said, they almost enacted fee schedules for laboratory services irrespective of setting. Congress is pushing in the direction of more efficiency in the delivery system. The HMO provision, enacted last year, builds on our successful demonstration projects which provide expanded services to Medicare beneficiaries in HMO's. In many instances, these projects offered richer benefit packages for dollar savings to Medicare beneficiaries and reduced costs to the Medicare program. Congress has also enacted expansions in Medicare benefits and types of providers in areas where they believed that new services would replace other more costly Medicare service. I cite as an example the hospice benefit and the ambulatory surgery provision in TEFRA.

Congress has also moved us towards greater clarification of proper Trust Fund expenditures. They are no longer willing to allow double payment for the same service. For 16 years, the Medicare program would often pay the bill once to the hospital on the supposition that that service was being provided by the hospital and then pay a Part B bill to a physician who performed that same service inside the hospital but billed Part B for the service. The enactment of the prospective payment system has fixed that. Also, there are obvious implications with respect to beneficiary cost-sharing. A Part A service does not have cost-sharing associated with it and a Part B service does. So simply on the whim of the institution, or the physician, beneficiaries sometimes were caught in the middle. Congress fixed that through the hospital-based physician legislation and closed other loopholes which allowed duplicate billing for lab and X-ray under both Part A and Part B.

In another effort to preserve precious Trust Fund reserves, the working aged provision of TEFRA was enacted. This equalizes the health benefit offered by employers for their older workers to those offered to workers under age 65 and makes Medicare the secondary payor to the employer insurance. This is similar to the 1980 legislation that made Medicare secondary to automobile and liabililty insurance.

Another major theme in TEFRA and in the 1983 Social Security Amendments is State flexibility to opt out of national systems, much the same as New Jersey has chosen to do, provided that a number of conditions are met. Under the 1983 Amendments, the Secretary must approve State systems if some 12 conditions are met, including substantially all-payor participation, local government consultation on impact, and perhaps the most important one that expenditures under that State system (over a 36-month period), are no greater than they would have been in the absence of such a waiver. Congress is interested in State flexibility, but they are not interested in threatening Medicare Trust Funds more than they are already threatened. If we had 50 State systems, with each spending just a little more than they would have otherwise, we would have defeated the purpose for which the flexibility was thought of in the first place. HCFA will be taking that aspect of the statute very seriously as we evaluate State proposals in this area.

In addition to putting these provisions in place, TEFRA and the Social Security Amendments mandated studies and reports that may hold as much likelihood for more change and more effect on the Medicare program as the two laws already enacted. For example, we are preparing a report on prospective payment for skilled nursing facilities (SNF's). Congress does not want different parts of the program on different reimbursement schemes. We have also been asked to look at the advisability and feasibility of including physician payments within the DRG rates. We will also be looking at the inclusion of capital in the hospital DRG payments.

All of these are profound changes. For SNF prospective payment, we have been working with outside groups in gathering information and discussing goals and options. While part of our task is to relate SNF prospective payment to the hospital system, reduce the cost-reporting burden, and devise a system that is easy to administer and understand, there are a few facts that one has to keep in mind. The nursing home industry is driven much more by Medicaid than by Medicare, and for obvious reasons. The Medicaid benefit is a long-term care benefit and the Medicare benefit is a follow-on to acute care. About 50 percent of the Medicaid budget goes to long-term care and about 1 percent of the Medicare budget goes to the skilled nursing facility benefit. SNF revenues from Medicare are also small, about 2 percent. We do not have a reliable case-mix measure for Medicare skilled nursing care. One thing we learned, both in New Jersey and at the Federal level, is that it is important to devise a payment system that encourages providers to take heavy-care patients as well as light-care patients. When one fashions a reimbursement system with flat rates, the incentives to take a heavier care patient aren't there. So we are in search of a valid and reliable case-mix measure for skilled nursing care under Medicare, and we need a system that encourages providers to care for the heavy-need patients.

On the physician DRG side, we are being asked to look at both the advisability and feasibility. We want to pay a fair price and maintain quality services and participation in the Medicare program. Some very fundamental questions, though, have to be addressed in this task. Who are we going to pay the money to—the hospital, the physician, the primary care physician, the medical society? And if we answer that question, the next one is what exactly are we going to pay for? Would we pay for just those services rendered to a hospital inpatient, or 2 days before and 3 days after, or would we pay a global fee for the whole spectrum of care of the patient? If so, would it be irrespective of the setting or one very much tied to the setting? Are we going to get into the business of saying that three consultations and two primary care visits is the appropriate amount of services? I hope not. The advisability hinges on such questions as incentives--participation incentives, quality incentives, teaching incentives, and so on. We will be considering all these issues.

Capital is another important issue. Next year we are going to spend $2.5 billion on capital through the Medicare program. The hospital assets in this country are worth over $110 billion, and estimates for the next decade for capital reimbursements range from $80 billion to $200 billion. Several factors are at work, though, as we examine ways to bring capital under the prospective payment system. Currently, we have prospective payment for operating costs with a capital pass-through on a cost basis. Will we have a substitution of capital for labor (e.g., automated laundries and the like) because of the pass-through, or a decline in capital because of increased operating costs associated with capital expenditures? It seems to me that both scenarios are possible. Also, as we look at capital, it is important to recognize the tremendous change in capital financing that has occurred in this country in the last 10 years. Tax-exempt bond financing is up since 1973 from 20 percent to 50 percent, and this is of great concern to our colleagues at the Treasury Department. Financing from taxable bonds, public sources, and philanthrophy is down from 70 percent to 35 percent. Hospital reserve financing is up from 10 to 15 percent.

Capital represents about 7.4 percent of Medicare inpatient payments, but considerable variation exists from one hospital to another because hospitals are at different points on their capital curves. We have developed some principles to guide us in the development of a proposal for capital reimbursement. We will not make allocative decisions on behalf of individual hospitals nor do we wish to guarantee individual hospitals a return on their investment. We want to provide appropriate incentives for hospitals to make cost-effective decisions and then let them determine how much for capital, how much for operating, and how to finance their capital needs.

We want to reduce the administrative and reporting burdens for hospitals and we may need a gradual change from the current system, but some questions remain. How much in the aggregate for capital? The $80 billion low side or the $200 billion high side? And how shall we distribute it? As an add-on to each DRG, a flat 7.4 percent, or through some other mechanism? And finally, how do we handle the transition? The subject of capital is going to get a great deal of attention, as well it should.

I think in making an overall appraisal of the direction we are going in, we can reasonably assume that we are headed toward bundling all input costs into a fair and overall rate under a prospective payment system. That will get the Federal Government out of the internal management of institutions, while encouraging cost-effective approaches to providing health care. However, much still remains to be done to further the effectiveness of the Medicare program, and return the trust funds to long-term solvency.

INTRODUCTION FOR SENATOR BILL BRADLEY
GEORGE J. ALBANESE, DEPARTMENT OF HUMAN SERVICES

I guess one thing we would all agree on is that since 1980 when the first 26 acute care hospitals entered the DRG system, DRG has traveled a rocky road.

But today, December 1, 1983, I think it's safe to say that the DRG system has successfully challenged old norms for the betterment of our health care system in New Jersey. While technical and administrative refinements might still be required, it is important to note that the DRG concept has been recognized by the federal government as an appropriate vehicle to cross the rocky road of health care cost containment at the national level.

For me, the acronym DRG means more than diagnosis related groups. It is symbolic of the direction New Jersey is taking to keep quality health care affordable.

As Governor Kean said recently when he announced the "Model Medicaid Waiver," New Jersey will lead the way in getting bureaucratic rules and regulations waived when they outweigh common sense."

Today in New Jersey, because of that direction, we are challenging the "institutional bias of medicaid" by implementing programs such as the Model Community Care Waiver, the AFDC Homemaker/Home Health Aide Program, the Medicaid Model Waiver, and the Middlesex Channeling Program.

People are receiving more efficient and humane health care. That appropriately leads me to our guest speaker, a person who has been instrumental at the national level in making these reforms possible; whether you are talking about a national DRG program or revamping the long term health care system, you'll find his leadership paving the way.

He is a recognized force on a number of fronts in Washington, such as energy, international trade and, more importantly, he has provided New Jersey's perspective to a finance subcommittee on health and to a special committee on aging.

It is really my great pleasure to introduce someone who needs no introduction—a person who brings us health care leadership at the national level, our United States Senator, Bill Bradley.

IMPACT ON ALTERNATE HEALTH CARE SYSTEM

Senator Bill Bradley, U.S. Senator

Americans enjoys a healthier life and a longer life than ever before. Thanks to the good efforts of medical researchers, practitioners, and administrators, such as those participating in this conference, tremendous strides have been made in wiping out or reducing suffering associated with many diseases. But we have been paying a high price for improved health.

The astronomical rise in the cost of health care is well known, especially to this audience. The burden of those costs is shared by all of us; the private citizens whose monthly insurance rates take an increasingly large bite out of their income, insurance companies who are finding it impossible to balance their rising costs with their beneficiaries' cry to hold premiums down, hospitals and medical practitioners whose costs continue to rise along with pressure from all sides to hold the line of charges, and certainly the State and Federal Governments and the taxpayers who provide the revenues. There are still Americans who do not receive adequate medical care, yet the share of Federal spending that goes to medical and related services has increased from 5.3 percent in 1960 to 10.5 percent in 1982.

Medicare and Medicaid entitlement programs, to which the Government contributes directly, have outstripped all cost predictions, and in 1983 are projected at $75.4 billion. By 1985, they will be at $95 billion even under current law. Back in 1965, conservative estimates placed these costs at only $8 billion in 1990. Medicare expenditures for inpatient hospital services alone has increased more than tenfold since its inception, from $3 billion in 1967 to $33 billion in 1982. The rise in health care costs was about five times higher than the CPI in the same 15 year period. In addressing these rising costs in the past decade, we have resorted to regulatory measures. Witness the rise of such acronyms as CON (certificate of need) HSA (Health Systems Agency) PSRO (Professional Standard Review Organization). Direct economic controls, using wage and price stabilization, were applied on at least one occasion and were certainly considered repeatedly. Now we are moving into the procompetitive mode, having witnessed the failure of our past efforts. A new vocabulary exerges-voucher, HMO, tax cap, DRG.

As we trace our way through the cost containment mine field--controls, caps, incentives, and competition--we must try to make sense of our health care system, and develop a coherent, long-range plan. As I look to the future, I hope that we can do five things: First, encourage a transition from the health care system based on cost reimbursement to a system based on perspective capitated payments. This would shift the emphasis from illness care to an emphasis on maintaining health and prevention of illness. The incentive to the provider is to keep a patient well so that fewer resources are consumed. Emphasis here should be on quality of care as well as cost and on sensitivity to the patient and to his or her family. Second, promote development of HMOs and other capacitated systems that provide alternatives for total care, including catasthropic care. By using a per person capitated system of health care delivery, alternative methods can be devised and implemented that share risk among clients and accommodate even catastrophic illness. The emphasis is on alternatives rather than dictating one single mode of delivery. Third, encourage development of regional health care systems that provide a financial base for risk sharing. In order to effectively utilize economies of scale to improve capital development, to provide alternative forms of care, a health care system needs to be large enough to support the diversity. Only a sufficiently large system can share the risk involved in investment decisions, can create competition and can be innovative in the delivery of care. Fourth, move long-term care into the mainstream of the health care system. Long-term care should be an integral part of a total health care system, and should perhaps be initially reimbursed under Medicare, then fully integrated under a capitated health system. Fifth, develop strategies for prevention that include incentives to maintain healthy lifestyles, such as exercise and proper diet, and discourage unhealthy habits such as smoking and alcohol consumption.

Although these goals, all five, are not all inclusive, they do reflect the direction in which I believe that our health care system should be heading. That brings us to the major systematic change the Congress has made perspective payments, such as the DRG system, that we are here to discuss today.

I put DRGs as a positive alternative to cuts in Federal outlays which would result in higher out-of-pocket expenses for Medicare patients and higher State costs for Medicaid. It has important long range implications for all of us, including those concerned about the Federal budget deficit and those concerned about affordable health care and quality health care.

Conceptually, DRGs were developed at Yale University more than a decade ago, but they didn't become a household word among health care providers and lawmakers until the State of New Jersey, in 1979, adopted an all-payer system for hospital reimbursement based on mix methodology. The New Jersey Health Department in partnership with the Hospital Association launched the first comprehensive experiment with DRG. For three years, New Jersey wrestled with the myriad problems rising from the implementation of a payment system that requires not only a different organization but also a different attitude. It requires a mental set that focuses on efficiency and alternatives. No longer are added costs automatically reimbursed or are unnecessary services rewarded.

Conceptually, the DRG system is sound health policy. It provides economic incentives for more efficiently delivered services, consistent with the first point of our long range plan. But it is a relatively new concept and we have a long way to go before we work out all the kinks. That is why the New Jersey model is so important. There are many questions which the New Jersey experience will help us answer. How are DRGs affecting teaching hospitals? What is the impact of DRGs on alternative health care systems such as HMOs? Does the severity of illness need to be considered in rate setting? How are education costs best covered under perspective payment systems?

Many of you here today are collecting and analyzing information to answer these and other important questions. I would like to encourage your efforts in answering one question which I am particularly concerned about. What is the effect on the DRG system on the accessibility and quality of health care.

Let us, for the next few minutes, take the perspective of the New Jersey citizen. How have the recipients of health care services in New Jersey been affected by this innovative financing system? Can we really contain health care costs without compromising quality? Skeptics predicted that patients would be discharged prematurely under the DRG system, that there would be an increase in readmissions, that hospitals would use the cheapest rather than most effective drugs, that needed tests would be foregone. And, as a Senator from New Jersey, and the State that has had the test over the last three years, I received a number of letters from constituents asserting some of the above and I was naturally concerned. That is why I am pleased to hear today that there is emerging evidence about the quality of care under the New Jersey DRG system that brings those negative expectations into doubt.

A study of admissions and readmission conducted this summer by the New Jersey Professional Standards Review Organization (PSRO), found that the DRG system has not significantly increased the number of readmissions in New Jersey. Analysis of over a quarter million discharges showed that early discharge readmissions and mortality are not significantly different under the DRG reimbursement plan. These findings are encouraging, but they are only preliminary, and we must continually ask questions related to access and quality of care under the DRG system. Our concern with cost, as important as cost may be, cannot be considered in isolation to the quality of care. We need to continue to monitor the program to continue to insure that the patient's needs are met.

There are a few specific questions that I hope you will address in your efforts to assess the DRG system. First I suspect that some hospitals will find some procedures that they are unable to do cost effectively. This might have positive and negative consequences for patients. On the negative side, patients might have less access to procedures that the hospitals in their area find unprofitable. In the extreme, some medical services might become very difficult to obtain. On the positive side, hospitals probably find unprofitable the procedures that they do least often and due to their infrequency, probably least well.

We may find that hospitals develop specializations in ways that may benefit patients. For example, small hospitals may cease doing an infrequent and costly surgical procedure, such as a bypass operation. Such procedures would then be primarily done in hospitals where the staff performs the surgery frequently and, therefore, perhaps more competently and cost effectively. This would result in optimal returns for hospitals and optimal quality for patients. I hope that research will show that the positive side prevails.

Let me pose another consequence of a DRG system. Drugs and equipment purchases must be scrutinized more carefully under this system. But is the price the only criterion for scrutiny? If so, we could see poorer quality drugs and equipment used in hospitals that would not be in the best interest of the patient. We all hope that effectiveness will be a prime consideration, in which case we should see a rise in the quality of drugs and equipment. Physicians may develop stricter standards for evidence on the effectiveness of drugs. After all, it would not be cost-effective in the long run to buy ineffective drugs. The same may be true for equipment purchases. Shiny chrome could be sacrificed, but it is certainly not cost effective to purchase poorly functioning equipment. We need to know to what degree quality is taken into consideration in hospital purchases under the DRG system compared to the previous payment system.

There are many other questions about the quality of care that can be and must be asked: Has there been a change in the number and kinds of tests given to patients? If so, are unnecessary tests being eliminated? Or are shortcuts being taken that may present risks to the health of patients?

I look forward to your answers to the questions I have posed with considerable optimism. I believe that we can cut costs without cutting quality by making medical service providers more cost conscious by creating an incentive for cost-effectiveness. Although there are certainly many problems to be dealt with as the DRG system is perfected, it has great potential. I am proud to be a representative of the State that has led the way in developing this innovation in financing health care.

I commend all of you who have played a role in creating this model. I hope that the skeptics among you will keep an open mind as the results of the first three years of a DRG system in New Jersey are made available. This program is remarkable in the level of cooperation it has seen among the medical administrators and practitioners, the business community, and Government. I look forward to our continued partnership. For it is clear that we must all work together to slow down the rise in health costs. The alternative, especially in a time of high deficits, might well be draconian cuts in benefits that no one would want to see.

Concurrent Symposia F-J

THE IMPACTS OF DRGS ON PAYERS

CHARLES F. PIERCE, JR.
DEPUTY COMMISSIONER OF HEALTH

To appreciate the impacts of the DRG reimbursement system on third party payers in New Jersey, or "insurers", you must keep in mind the unique characteristics of the New Jersey system. While these characteristics make the New Jersey system significantly different from the national system, the experiences of insurers in New Jersey are instructive for those of you from other states. Let me quickly note six characteristics that you should keep in mind.

1. New Jersey has an all payer system

Results: Cost shifting is largely eliminated. All insurers must pay the same rates. This also effectively eliminates the ability of HMOs and PPOs to negotiate discounts from hospitals.

2. Each hospital has a separate and individualized set of rates for all 468 DRGs. If you have four hospitals sharing a common service area, there will be four sets of prices for each DRG. Higher prices or costs can be caused by:

   a. Institutional inefficiencies
   b. Higher debt service (new or recently renovated facilities)
   c. Teaching programs

Results: HMOs or other groups that have the ability to influence a patient's choice of a hospital can shop around on the basis of price.

3. Uncompensated care, bad debts and charity care, is an element of costs that is fully reimbursed.

Results: Inner city hospitals that are efficiently operated have a stable financial base. Hospitals can take any patient, regardless of the patient's ability to pay, without fear of financial disaster.

4. Outpatient services are paid at a flat rate, with no regard to DRGs.

Results: Hospitals have incentives to promote outpatient programs. The Department of Health is developing a payment methodology that is more sensitive to volume. As hospitals, physician groups and entrepreneurs increasingly move into more outpatient programs, reimbursement for these modalities of service increases as a public issue.

5. Payer differentials, or percentage discounts, are awarded to insurers for economically quantifiable benefits.

Results: Determining economically quantifiable benefits is a wonderful concept that is difficult to implement. If every insurer gets a 4% discount, what was accomplished?

6. Hospital revenues by third party insurers in New Jersey on a statewide basis are approximately:

a.	Medicare	40%
b.	Blue Cross	22%
c.	Medicaid	9%
d.	Commercial insurers	15%
e.	Others: includes self-funded groups, self pay, and HMOs	14%

You are going to hear from representatives of the three largest insurers in the state and one insurer that covers a small number of patients in New Jersey but covers a large number throughout the country. It also plays a significant role in the state because Prudential's home office is in Newark.

Each of these individuals has had enormous impacts on the development of the DRG system in New Jersey. Now we have the opportunity to hear from them about the impacts of DRGs on their organizations.

THE IMPACT OF DRGs ON PAYORS
A MEDICAID PROSPECTIVE

Erwin Weiland, New Jersey Division of Medical Assistance and Health Services

I have compiled a hodge-podge of thoughts related to State Medicaid Programs and Diagnosis Related Groups (DRGs). Since it is impossible to address adequately all of the issues and concerns involved in maintaining a Medicaid program under a DRG environment, I will just highlight a few of the major areas for your consideration.

When entering an all payor DRG system, the most radical concept that occurs is the immediate confrontation of the fact that you are "just another payor" in an all payor system. There are no special privileges afforded you as a state agency. As such, you begin to understand how the Blue Cross plans and commercials react to governmental programs; Medicare-Medicaid.

Budget is a major factor. Medicaid agencies operate under a legislative fund which cannot be overspent. Thus it is imperative that we manage those dollars as best we can in a DRG all payor system. In the event there is a budget shortfall, there are very few alternatives other than going for legislative over-ride or curtailing services. The ability to project expenditures becomes extremely complex under a DRG methodology since the reimbursement is based on diagnosis and not on days (per diem).

Major issues and concerns

Data: Is essential in determining its availability for use in structuring the cost base and relative values. One's initial thoughts are directed at paid claims data and cost reports. Unfortunately, paid claims data can tend to be unreliable for purposes of projecting under a DRG system, since previous payment methodologies were not dependent or driven by diagnosis. Often the accuracy and attentiveness to proper coding was lacking. Further, there has been no uniform use on the part of medical records personnel with respect to applicability of principal diagnosis vs primary diagnosis. As you know the principal diagnosis is the diagnosis which caused the admission and the primary diagnosis is the diagnosis which consumed the greatest amount of resources during the admission. To a great extent any concern regarding DRG "creep" should not be one of gaming but one of perfection in one's ability to properly identify those diagnosis and procedures related to treatment during an admission.

A major step forward in the system occurred when the original set of 383 DRGs was expanded to 467, thus precluding the ability to reconfigure certain categories into a positive, although not necessarily totally accurate, bill construction. This was further enhanced with the addition of DRGs 468, 469 and 470.

Cost reports: The second issue in structuring rates in the data source is the use of cost reports. Unless a State has its own specific audited Medicaid cost report, the information necessary to structure initial sets of rates can be obtained from the Medicare 2552 and the supplemental 1007 and 1008 cost reports. Unfortunately the ability to access these cost reports on an audited basis is hampered with respect to time constraints in implementing a timely DRG system. In order to adjust for the use of unaudited cost reports, it would be inappropriate to take the ratio of change between prior years submitted cost reports and audited cost reports over time and adjust the existing cost reports (unaudited) to the same ratio of change from previously audited cost reports. In doing so you have the ability to establish a firm base from which to strike costs and relative values. Of further interest is the fact that if you do not intend to pay actual costs but rather remain within a legislated appropriation the use of audited cost reports is even less significant since their use would be limited to striking appropriate ratios between expense categories as opposed to defining actual costs.

Maternity and newborn claims: The data base for paid claims regarding utilization of maternity and newborn becomes a complex issue in converting the historic information into prospective estimates. The major problem involves the traditional method of paying for newborns. That is, the newborn and nursery charges are contained on the mother's claim. As such, there is only one claim record to abstract information from. Under the DRG methodology, there are two or more categories under which claims would be submitted. At a minimum, a separate claim would be submitted for the mother and the newborn. The ability to abstract the costs related to the newborn care during the mother's confinement is a difficult task but is necessary in order to appropriately cost out the newborn DRG. This becomes more complex when the newborn has other complications and stays beyond the mother's discharge. Although a separate claim is generated for the newborn after the mother's discharge it is difficult to abstract from the mother's bill the intensity of services and cost of services rendered to the abnormal newborn. Once accomplishing this, it is necessary to link that cost information with the cost information available from the newborn claim in order to come up with an estimated cost of caring for the abnormal newborn in a given DRG.

In addition, adjustments have to be made for volume admissions and in essence double count all maternity with delivery so as to pick up the newborn admission when calculating DRGs and relative values under the prospective system. In many instances where an abnormal newborn is delivered that infant is then transferred to a neonatal intensive care unit or to a speciality hospital for further care. Because of this transition from location to location, it is essential to tract the individual stays so as to project the total cost of providing care under the DRG. This factor is immensely important when in the development of the system you defined how reimbursement will occur for transfer cases. This is partially resolved through two specific DRGs wherein this would occur most frequently. The first being neonatal and the second, burns.

Comorbidity and manifestation codes: I know that this has been previously discussed in other work sessions during this conference. However, in the scope of developing a data base for the prospective payment system, it is certainly most important to reiterate the problems that can occur as a result of these codes.

The Grouper system for allocating diagnosis into the various groups does not recognize many ICD9-CM diagnosis codes as principle diagnosis. Examples such as abortion, asthma and diabetes are various situations where the procedure or the condition resulted in a diagnosis. Abortion should be diagnosed as pregnancy; asthma should be diagnosed in the respiratory ailment category; diabetes is a complication in treating another primary diagnosis. All the aforementioned situations and several others will result in grouper rejecting these primary codes as DRG 470s. When this occurs it is essential to retrospectively adjust the principle diagnosis for those claims in order to "clean up" the data base and obtain the proper distribution and valuation in both the cost and relative values. In the situation of abortion, it is simple enough to reflect pregnancy as the principle diagnosis and recode the DRG. However, with respect to asthma, diabetes, etc. the specific reason for admission which would constitute the principle diagnosis in many cases can only be obtained through retrospective review of the medical records. In the event, on first pass through grouper, an enormous amount of 470 DRGs are identified the manual methodology for recoding may not be an appropriate approach.

Psychiatric and rehabilitation cost:

The Federal DRG regulation provides for the exclusion of free standing psychiatric and rehabilitation facilities from the prospective payment system. In addition, hospital based Medicare certified units may also be excluded from the system. As a result there is one remaining area which constitutes a difficulty in applying the system. That is, those hospital based and possibly state licensed psychiatric and rehabilitation units which are not Medicare certified. Many of these units may have applied for "waiver" under the prospective payment system and as such, if approved, may be excluded. In order to do so one must be able to identify those costs and services relevant to care rendered in these units and remove them from the prospective cost and data base. The difficulty involved is similar to that of maternity and newborn in the sense that only one claim would have been previously submitted for care rendered in both the acute and/or psychiatric/rehabilitation unit. It is essential from a cost prospective to be able to identify those services rendered to the recipient exclusively in the distinct units and separate those from other care which may have been psychiatric or rehabilitation related, but rendered in the acute unit. Unless this can be done in an accurate fashion the relative values and pricing for DRGs which require psychiatric or rehabilitation can be substantially under/over stated.

Other considerations: Quickly, I would like to review some other areas which could have a major impact on the development and implementation of a DRG system either in an all payor environment or a Medicaid specific DRG program.

The unbundling of direct patient care costs by hospital based physicians is an issue not easily resolved. Several questions are raised. How does this impact on the hospital contract with physicians? How will this effect hospital revenue? Will this impact on the availability of hospital based physicians to indigent and Medicaid recipients if the fee schedule established is not adequate?

When these direct patient care costs are excluded from the inpatient side and the physicians are required to bill according to a fee schedule there is a need to establish new pay codes and fee schedule rates for these areas of service previously incorporated in the inpatient side. These areas include such specialities as cardiologists, pathologists, etc.

Of additional complexity is the rebundling of certain ancillary services previously provided to inpatients in an outpatient environment. The simplest example would be the transporting of a recipient as an inpatient from hospital A to the outpatient area of hospital B to recive a CAT scan and then returned to hospital A to continue treatment. Under the proposed methodology both the transportation and cost of the CAT scan will be billed directly to hospital A. Some initial concerns involve setting the price that a vendor may choose to increase his price or charge to the hospital. At such time as the hospital accepts the bill it becomes a hospital cost and as such is treated somewhat differently in terms of screens.

Problems exist for hospitals since they not having been previously responsible for providing these services or billing for these services, have no way of budgeting for these expenses due to lack of previous volume and cost data. The individual prospective payor systems that arise have to insure that hospitals negotiate a favorable rate with these ancillary providers of service.

Quality of care and utilization: Under the N. J. system since it is an all payor system, utilization review is a requirement for all patients. Medicaid initiated direct contracts with Professional Standards Review Organizations/Utilization Review Organizations to do non-delagated review in a DRG environment. The non-delagated review agreements included both physician and nurse non-delegation in addition to 100% admission review (excluding maternity and newborn) and a cyclic review for continued stay. The cyclic review used regional norms for intensity of service and severity of illness criteria.

Initial evaluation of PSRO performance in this environment is encouraging. One must say that the PSRO responded well to the challenge. Four specific areas of significant improvements were noted. A-Statistically significant increase in the identification of inappropriate admissions; B-Significant increase in the identification of "carve-out days" or those days not medically productive during the confinement; C-An encouragement through an educational process of a transition to greater utilization of same day surgery units and D-Defined studies indicating the assurance of a continuation of the quality aspects of care. From a financial prospective, the cost of implementing a direct contract review process was far less than the savings as a result of the intensified utilization review activities.

Before we review the impact of the system on the N. J. Medicaid program we would suggest consideration of other areas and the implications of those areas when developing your own DRG system. They are: Medicare crossover claims; Medicaid management information system; and benefit structure.

Impact

In understanding the financial impact on the N. J. Medicaid program, it is important to note that prior to the all payor DRG system Medicaid did not cover certain elements of cost. Of particular note were those costs related to bad debt and indigent care. In addition, it is also important to note that N. J. phased in over three years with 26 hospitals entering the system in 1980, 44 hospitals entering the system in 1981 and the balance of the acute care hospitals entering the system in 1982. Our cost information analysis presently only reflects the trending for the first 26 hospitals and the second 44 hospitals. During the first year under DRG, average hospital increases were approximately 32%, the second year 19% and the third year 14%. The Phase 2 or Class 2 hospitals coming into the system showed a similar escalation of costs during the first year of approximately 28% and a reduction to approximately 19% during the second year.

Length of stay decreased for Medicaid recipients by slightly more than ½ day.

Admissions were substantially reduced by approximately 8%.

And projected savings from utilization review were well in excess of 2.5 million. In conclusion, I would indicate the following: Can the system work? Yes.

Medicaid agencies have the opportunity through DRGs to better manage the ever tightening dollar. The system provides for the ability to equitably distribute these funds and at the same time assures the state agency of a more active role in the delivery of health care to the needy. The DRG system allows state agencies to take advantage of many opportunities through the acceptance of responsibility that comes with initiating change. Thank you.

IMPACT OF DRGs ON BLUE CROSS OF NEW JERSEY

Fred L. Koehler, Jr., Hospital Service Plan of New Jersey

As most of you know, all payors in the State of New Jersey including the New Jersey Blue Cross Plan have been prospectively reimbursing hospitals on a price-per-case basis employing the use of a Diagnosis Related Group (DRG) System since mid-1980.

In reviewing the events leading to the adoption of a National Medicare Prospective Payment System employing DRGs as the unit of payment, much testimony has been offered by various parties concerning the New Jersey DRG Experiment and its relative degree of success. The testimony has ranged from statements by the Medical Society of New Jersey that the system is complicated, expensive and unproven, to the New Jersey Department of Health's claim that the below average hospital cost increases in New Jersey have proven the New Jersey System has been extremely successful. One fact is obvious--The New Jersey DRG System has served as the sole testing ground for a prospective payment system based on price-per-case. The New Jersey DRG System was designed to control hospital expenditures by providing incentives for hospitals to increase operational efficiency, eliminate unnecessary services, and use the most cost-effective treatment methods. Although the Medicare Prospective Payment System has some major differences from the New Jersey System, the ultimate objective of both systems is the same.

At the risk of disappointing many of you, I must state up front that we at New Jersey Blue Cross have yet to formulate a conclusive opinion as to whether or not the DRG methodology has proven to be a significant cost containment initiative. While the New Jersey DRG System has been operative for over three years, hospitals were phased into the system on a staggered basis with the last hospital coming on board just a year ago. Because hospitals were introduced into the system in three classes--26 in 1980, 33 in 1981 and 34 in 1982--and because hospitals in each class implemented DRG billing at different points of time in the year, it has been extremely difficult to prepare a meaningful analysis of our payment experience in order to draw conclusions regarding the impact of the DRG System.

Evaluation of the DRG impact is further complicated by an additional factor--The major differences in the elements of cost reimbursed under the New Jersey DRG System as contrasted to the elements of cost which served as the basis for reimbursement by New Jersey Blue Cross for hospital services prior to DRG.

We have performed various analyses of our claims experience to date under the DRG System which I will share with you today. Before presenting this data and some conclusions we have reached, I would like to provide you with some background information concerning rate setting in New Jersey and the evolution of the DRG System.

New Jersey has 93 short-term general hospitals which serve the State's 7.4 million residents. The New Jersey Blue Cross Plan, which is the third largest Blue Cross Plan in the United States, has 4.7 million members, including those enrolled in Medicare supplementary coverages. In 1982, total revenue in New Jersey general hospitals amounted to 2.7 billion dollars. Distribution of this revenue by payor category was:

Medicare	40%
Medicaid	9%
New Jersey Blue Cross	22%
Commercial/Other	17%
Self-Pay	6%
Other Blue Cross	6%

Rate setting and rate regulation by State Government is not new to New Jersey. In the early '60s, the New Jersey Department of Insurance began to impose ceilings or limits on Blue Cross' payment rates to hospitals, which rates were determined on the basis of average hospital per diem costs. In 1968, at the request of the New Jersey Hospital Association, a budget review process for hospitals was established under the auspices of the State Commissioner of Insurance. Initially, the budget review process was limited to high cost hospitals, i.e., those effected by ceilings; however, in 1972 the Commissioner of Insurance made budget review mandatory for all hospitals. Staff work for the Department of Insurance was performed by HRET, a non-profit affiliate of NJHA. Recommendations of hospital payment rates were presented to the Commissioner of Insurance by an Advisory Committee consisting of hospital administrators, hospital trustees, physicians, and members of the public.

The period of double digit hospital cost increases during the years following enactment of the Medicare Program in 1966, gave rise to 1971 legislation which concentrated the regulation of New Jersey health care facilities in the Department of Health. The 1971 statute empowered the Health Commissioner to establish a uniform system of hospital reports and audits, created a certificate of need program for all health care facilities, and gave the Commissioners of Health and Insurance joint authority in approving Blue Cross' payment rates to hospitals. Initially, the Department of Health concentrated its efforts on the planning provisions of the 1971 Law, with hospital rate review continuing under the Insurance Commissioner's budget review program.

Continued rapid rise in health care costs created sufficient public pressure to force the Commissioner of Health to develop a new hospital payment system which was implemented in 1975. The new Standard Hospital Accounting and Rate Evaluation (SHARE) System was a computerized type of budget review process employing use of hospital groups, medians, cost clusters, etc. Elements of cost reimbursed under the SHARE System remained as they were under the previous per diem cost reimbursement system and did not recognize uncompensated care provided by hospitals. The SHARE System was successful in holding annual payment rate increases for Blue Cross and Medicaid to approximately 10%. However, hospitals were allowed to avoid the penalty of disallowed reimbursement from the regulated payors by increasing charges to the unregulated segment of their patient population. This caused the differential in the rates of payment by regulated vs. unregulated payors to increase at a dramatic rate, approaching the level of 30% by 1978. In that year, the Health Department was successful in obtaining passage of legislation (Chapter 83) which empowered the Commissioner to set rates for all payors.

The 1978 legislation had three mail objectives:

° Contain the rising cost of health care services.

° Assure hospital solvency by guaranteeing payment of full financial requirements to efficient hospitals.

° Assure equity for all purchasers of health care.

The legislation also specified that the reimbursement system was to take into account the case-mix differences between hospitals and provide incentives for hospitals to hold down costs--thus paving the way for DRG reimbursement. One additional aspect should be mentioned as regards Blue Cross. The legislation which established New Jersey Blue Cross as a non-profit hospital service plan provides for a high degree of regulation by the New Jersey Department of Insurance. Over the years, consistent with the regulatory philosophy employed by the Department of Insurance and the Public Advocate, Blue Cross has become the only affordable and readily available source of health care coverage for a large segment of the State's population who are otherwise uninsurable. Spurred by the Insurance Department, Blue Cross offers continuous open enrollment to all individuals regardless of health status at standard non-group rates. Premium rates for individual and small group community-rated subscribers are heavily subsidized through surcharges to large experience-rated groups.

This type of regulatory scheme is only feasible when Blue Cross enjoys a substantial hospital payment differential. Absent the differential, Blue Cross would be unable to remain competitive in the experience-rated marketplace and maintain the community subsidy. Fortunately in the negotiations which took place prior to enactment of Chapter 83, we were successful in obtaining language which permitted payment differentials for "quantifiable economic benefits rendered to the institution or the health care delivery system taken as a whole." As a result, Blue Cross today receives an approved payment differential of slightly over 6% in addition to a prompt payment discount of 5%.

With this background, we can address the question of whether the objectives of the 1978 legislation have been achieved. From our viewpoint, the system provides equity for all purchasers of health care. We also believe there is general agreement that the financial position of New Jersey hospitals has greatly improved since 1980, and that hospital solvency is assured for efficient hospitals. It is more difficult to give a definite answer regarding the remaining legislative objective of health care cost containment.

In an effort to address the effectiveness of the DRG System and its impact on New Jersey Blue Cross, we have summarized our payment data for the three year, nine month period ending September 30, 1983 and projected experience to year-end 1983. The data was separated for each class of DRG hospitals in order to observe trends in admission rate, length of stay and cost per case during the four-year period. This data is presented in three charts.

The first chart displays admissions per 1,000 members. You will recall, I mentioned that Blue Cross had reimbursed hospitals on the basis of average per diem cost prior to DRG. Therefore, we were predominately concerned with cost per day and utilization of patient days. Under the DRG System, our focus has shifted to cost per case and utilization of cases or admissions. Prior to 1980, we were observing a downward trend of about 1% per year in admissions per 1,000 members enrolled. You will note that in the initial year under DRG, each class of hospitals shows a marked increase in admissions, e.g., 1980 class from 26.8 to 27.8, or 3.8%, in 1980. This is explained by the fact that newborn cases are paid as separate admissions under the DRG System. Previously, Blue Cross' payment for newborns was included in the claim processed for the maternity admission. After the initial year impact, each class of hospital returns to the normal pre-DRG pattern. This experience strongly suggests that concerns about abuses in re-admissions or unnecessary admissions are unfounded. Additionally, the overall downward trend in admissions has continued throughout the four-year period and is projected at 1.7% for 1983.

The second chart displays average length of stay (ALOS) experience of Blue Cross members by class of hospital. You will observe that the trend is fairly uniform for all hospital classes. The overall decrease in ALOS has averaged about 2% per year. The 1982 class of hospitals had an ALOS of 6.63 days in 1979. We anticipate ALOS for this class will decrease to six days in 1983 from the pre-DRG level of 6.4 days in 1981, a drop of over 6%. Overall, ALOS experience suggests a strong response to the incentives of per-case payment.

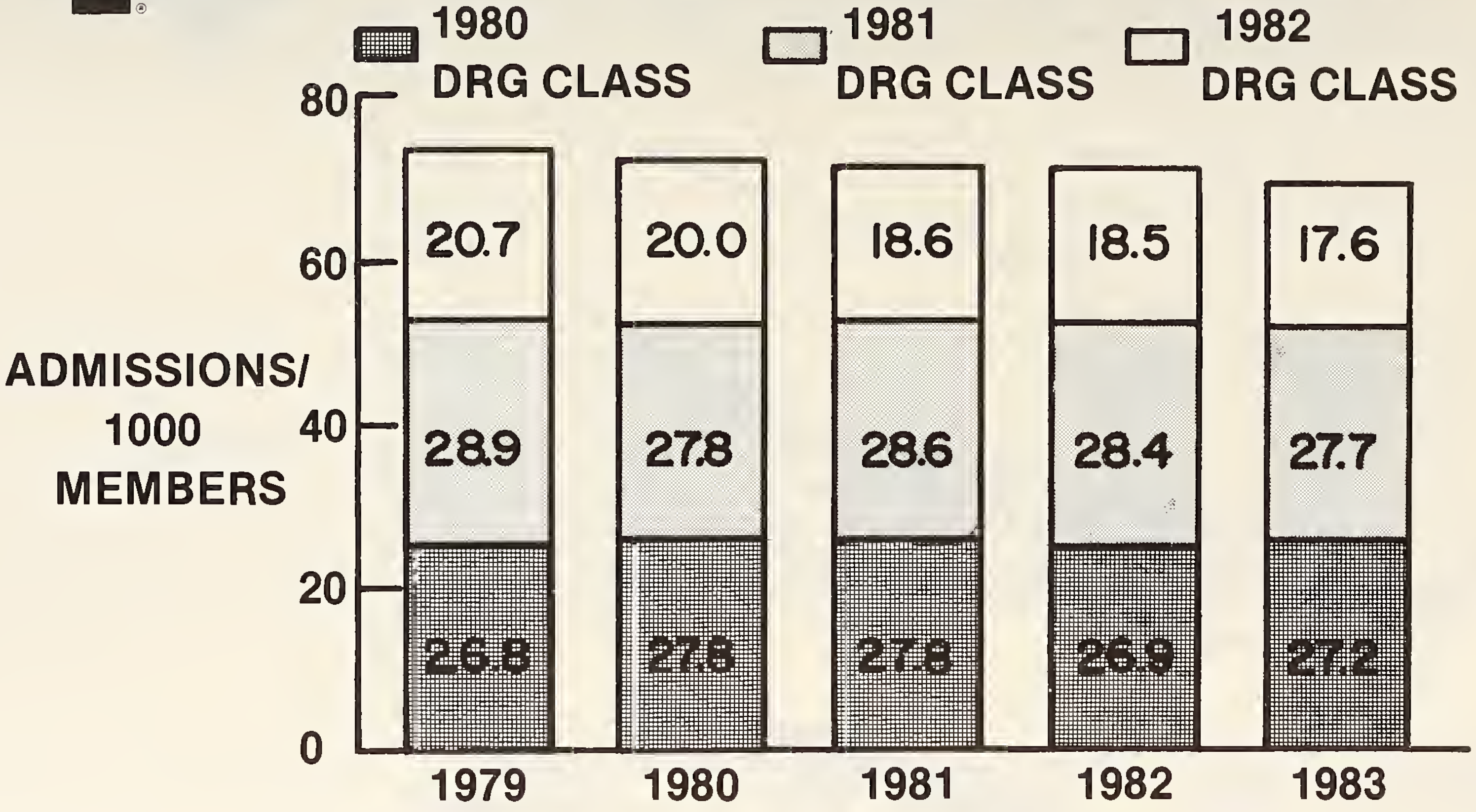
The final chart displays cost per admission for the four-year period. Overall, the cost per case has moved from $1,212 in 1979 to $1,917 in 1983, a 58.2% increase. Before anyone leaps to a fast conclusion that the DRG System has failed based on these results, let's recall my earlier comments about the 1978 legislation. Chapter 83 required recognition of financial elements that previously were excluded from Blue Cross' reimbursement to hospitals. These new elements included payment for uncompensated care (Bad Debts and Charity Losses), a cash infusion for hospitals with critical working capital needs, and a capital facilities allowance in place of depreciation based on historical capital costs. The uncompensated care item alone is priced at about $225 million per year currently. In addition, to overcome the opposition of many hospitals to the new system, the Department of Health based the DRG payment rates on actual hospital costs during the base year, as opposed to approved SHARE costs which were substantially lower in the aggregate. Finally, the use of DRGs based on the average cost of all patients caused Blue Cross' payments to increase at an estimated 6% initially because the ALOS of our members was lower than the average of all patients. This situation was alleviated to a large degree with the subsequent changes in trim points and the expansion of the original 383 DRG classifications to 467 in 1982.

We have not been able to separate the "Chapter 83" impact from the pure DRG effect on Blue Cross' payments during the four-year period. However, the chart reveals a consistent trend for each class of hospitals. There was a normal cost trend of about 10% for Blue Cross' payments in 1980 over 1979. The "initial" impact during each class of hospital's transition to DRG billing was dampened by the often considerable delays in implementing DRG billing and by the inclusion of lower cost for newborn cases in the payment data. Thus, the chart displays a significant increase in the second year of DRG billing for each class of hospitals. To illustrate this, the payment per case for the 1980 class increased by 21% from $1,316 to $1,594 in 1981 over 1980. The trend leveled off to 11% in 1982 (or $1,770) and is projected at 8.8% (or $1,925) for 1983. The change for the 1982 class in 1983 is more dramatic--A 29% increase in cost from $1,677 in 1982 to $2,163 for 1983. This group of hospitals came into the system very late in 1982.

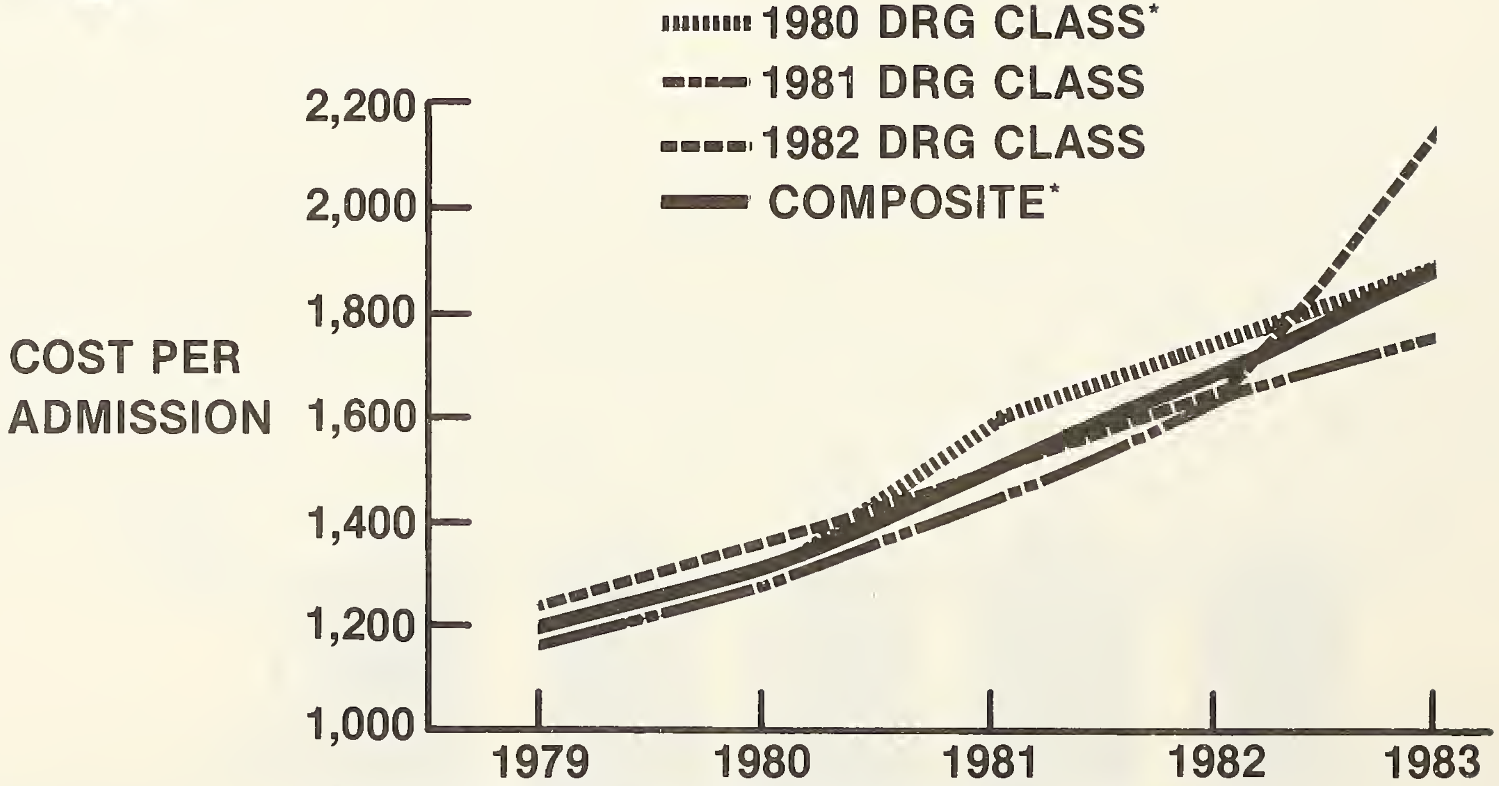
We are encouraged by what can be observed from the trend line displayed for hospitals on the system for two full years. The 1980 class shows a cost per admission increase of 8.8% in 1983, and the 1981 class an increase of only 7.8% in 1983. This would suggest the Department of Health's goal of a cost trend geared to changes in their pre-determined economic factor is being achieved. This is not to suggest that the transition to the Chapter 83-DRG System hasn't created problems for Blue Cross. Aside from the practical, day-to-day operating and systems problems in changing from a per diem payment system to a per-case system, it has been especially difficult to predict trends in claim payments, and therefore, to establish premium rates at appropriate levels. While we knew that the new financial elements would add to Blue Cross' payments, there was no reliable information as to the precise price tag involved. Further complicating the problem of forecasting the anticipated level of claim payments was the late implementation of DRG billing by hospitals and the considerable delay in the determination and approval of hospital reconciliation adjustments. Blue Cross entered the year 1980 with a positive reserve position of over sixty-eight million dollars. At March 31, 1982, we were experiencing a reserve deficit of over nine million dollars. Needed community-rate increases for small group and individual subscribers were delayed because of disagreement between Actuaries in Blue Cross, the Department of Insurance, and the Public Advocate's Office over anticipated payment levels to DRG hospitals. When it became apparent that Blue Cross' financial plight was serious, the Insurance Department responded by approving community-rate increases of 15% in June 1981, 26.6% in January 1982, and 19.5% in June 1982, a total of over 60% in a twelve-month period. Obviously, this created some public relations problems for Blue Cross. Fortunately, as time passed and the phasing in of Chapter 83 billing was completed, I am happy to report that Blue Cross has returned to a relatively healthy financial position. Our enrollment has slightly increased over the pre-DRG level, although we have experienced some decrease in market share. We anticipate that the 1983 cost trends (of 8 to 9 percent) previously displayed for the 1980 and 1981 DRG hospitals, will continue in 1984 for all hospitals. Based on this experience, we have postponed a community-rate increase scheduled for July 1, 1983. No determination has been made as to a 1984 community-rate filing, pending analysis of the 1984 DRG rates which were recently released by the Department of Health.

In conclusion, Blue Cross' appraisal of the DRG System is favorable. The incentives appear to be working. However, substantial changes are needed if New Jersey is to retain its Medicare Waiver. Future DRG rates must be structured to reflect the standard, with minimal recognition of individual hospital costs which depart from the standard. This change is essential in order to hold Medicare's payments to New Jersey hospitals in line with their payments to other hospitals under the National Prospective Payment System. Loss of the Medicare Waiver will destroy the Chapter 83 concepts of payor equity, hospital solvency, and health care cost containment for New Jersey residents.

ADMISSIONS PER 1000 MEMBERS

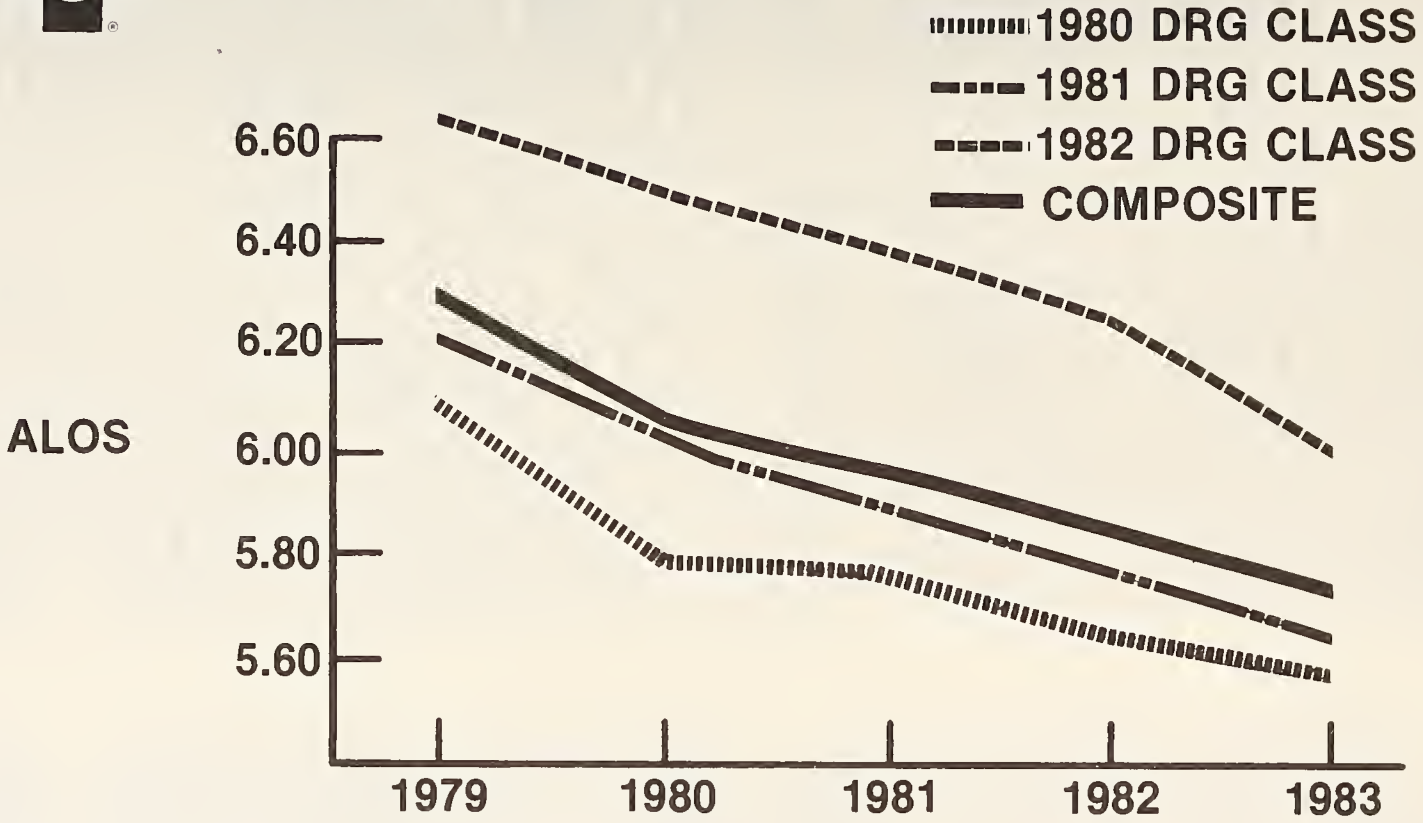


COST PER ADMISSION



*The Cost Per Admission for the 1980 DRG Class coincides with the Composite for the years 1979-1980.

AVERAGE LENGTH OF STAY



IMPACT OF DRGS ON COMMERCIAL INSURANCE COMPANIES

Richard J. Mellman, The Prudential Ins. Co.

I have been involved in the New Jersey DRG program since its inception, or more precisely, since its conception, since I attended all the hearings of the Senate committee which drafted the law back in 1978. The Prudential has worked closely with the Department and with the Rate Setting Commission since 1980 in the implementation of this program. We are also monitoring with great interest the federal Medicare program.

As Charlie Pierce indicated, Prudential is one of the largest insurer members of the Health Insurance Association. To give you some idea of our size, we are approximately 3 1/2% of the private insurance market.

Why DRGs are important to insurance companies

There are two principal reasons, cost containment and equity.

. Cost containment

Hospital costs are directly related to health insurance premiums. Much of the public doesn't understand this. Insurance companies have a responsibility to their policyholders to keep premiums affordable. The recent Louis Harris poll showed that the overwhelming majority of Americans like the quality of their medical care, but are concerned that it costs too much, and also feel their insurance companies are not doing enough to try to moderate the steep rate of medical cost escalation.

Two myths frequently come into discussion of this point. The first is that insurance companies like medical costs to go up steeply because the higher the costs of medical care, the higher their premiums, and the higher their premiums, the more money they make. I assure you nothing could be further from the truth. In fact, my company withdrew from the individual and small group market two years ago because the product had simply been priced out beyond the ability of the public to pay for it. I can assure you that it is not pleasant to call on a policyholder to tell him his premium rates are going up 25% or 30% next year, particularly if he has read in the papers how Medicare and hospitals report with satisfaction that hospital expenditure increases are running at much lower percentage figures.

The second myth is that health insurance is a loss leader and that insurance companies remain in the business in the expectation that although they'll lose money, somehow it will help them sell other forms of insurance. I assure you that's a myth also.

So insurance companies are interested in cost containment.

. Equity

We've learned that the political realities are such that we cannot expect to achieve equality in hospital pricing. Equity is the goal. Which raises this delicate issue of how much differential for some payors is equitable. More on that later.

The reasons we favor equity are, first, because of the overall desirability of fair pricing. Secondly, because it affords the purchaser of health insurance a meaningful choice in the marketplace, that is, it enhances competition in the private insurance marketplace.

Back in 1978 the discount was generally acknowledged to be about 30% (equivalent to about 39% differential, because of the difference in definition of discount and differential). At that point, I believe we would agree that the purchaser of health insurance did not have a meaningful choice. As an illustration, large employer self-insured plans were much rarer in New Jersey than in states where costs and charges were in a more equitable relationship.

So those are the two principal reasons why insurers are interested in equitable pricing, although there are additional reasons why it's good for the overall system. For example, hospital efficiency becomes more of a determinant when it isn't overwhelmed by luck of the hospital's payor mix draw. Clearly, it's been a good thing for the distressed inner-city hospitals who have large percentages of medically indigent non-paying patients. I believe New Jersey hospitals would agree that this fairer pricing also provides a better management tool for the hospital administrative officials, the full-time hospital staff, and the hospital board, to monitor the performance and practice modalities of its attending physicians.

New Jersey and federal DRG systems differ.

Previous speakers have explained that the New Jersey and federal DRG systems are quite different. Their principal commonality is payment on the basis of the diagnosis, of which we are highly supportive because it provides positive incentives for cost effective treatment. The point is that previously this country had a payment system under which payors told hospitals "the more you do for our patients and the longer you do it, the more we will pay you." The DRG system reverses this perverse incentive. Now there's positive incentive for not performing unnecessary tests, for not admitting the patient on Saturday morning and letting him lie there until Monday before treatment begins, because two additional days room and board charges are no longer generated, etc.

I really believe it's unnecessary to dwell on whether the program has or has not been statistically effective thus far. Because clearly, the DRG concept sets in place positive incentives and if we can get the program to work properly, there's no reason why it should not be both cost effective and positive. Two well known health economists, Walter McClure and Alain Enthoven, both draw the analogy to how, if you're trying to channel a river's flow, it's much more effective to channel it to flow downstream than to try to channel it to flow upstream. That's what the DRG concept seeks to accomplish in our regulatory environment.

The principal difference between the two is, of course, that the New Jersey system is all-payor, whereas the Medicare system is one payor. I used to draw the analogy of a balloon. If you squeeze one part of a balloon it's going to bulge out elsewhere. That is what produced the 30% discount in New Jersey when the previous rate setting program applied to just some payors.

A better analogy is to a seesaw. Visualize, if you will, a teeter-totter under which the payors are arrayed on different sides. If Medicare and Medicaid are on one side and all the private payors on the other side, and we push down on Medicare and Medicaid, it's clear that the other side is going to go up, particularly if the pushing down does not not recognize the cost of treating the medically indigent who cannot pay. Typically, no-pays are about 5% of the patient load and the patients with commercial insurance are about 15%. So if nobody else is paying for the 5% clearly our 15% have to pay 20% (their own 15 plus the unpaid 5) if the hospital is to recoup its expenses. That is four-thirds, or a differential of approximately 33 1/3%. It's virtually that simple.

In some states, Blue Cross and the commercial carriers are on the same side of the seesaw. But in other states, Blue Cross has a cost reimbursement contract under which they are insulated from cost shifts from the public payors. The result is that now Medicare and Medicaid are on one side of the seesaw, Blue Cross has positioned itself nicely at the fulcrum, and only the commercial insurers are on the other side. Now when the public payors push down, we go up a lot. And that greatly widens the differential so that it becomes a windfall competitive advantage for Blue Cross relative to commercial insurers which has nothing whatsoever to do with all these nice things they claim to earn through open enrollment, prompt payment and so forth. Rather, it's a direct windfall result of the increased squeeze from federal and state payors.

The fragile flame must be protected.

From here on my remarks relate principally to the New Jersey program. As Lou Orsini and I have made clear, insurance companies are highly supportive of the New Jersey program. We like the concept, we think it's sound and we want to work constructively to help make it work better.

A great responsibility has been given those who are charged with administering this program in New Jersey -- the Rate Setting Commission and the Department of Health. How well the system works is essentially up to them, because they have the authority and the responsibility.

As they get into the determinations of how large a differential is appropriate for Blue Cross relative to commercial insurers and other former charges paying patients, matters quickly become controversial. The differential is now 6.18%. I'm sure that Fred Koehler feels it should be considerably larger and I feel it should be considerably smaller. But I would certainly admit that it's a great improvement over the former 30% discount.

. The analogy of the restaurant.

Some of the criticisms and horror stories are well-known. In planning this talk, I sought to discuss them without recounting their specifics, because repetition adds credibility. I tried to construct an analogy of restaurant owners who change from ala carte menus to complete fixed-price dinners, and then I tried to develop examples of the disruptions in status quo that might result.

An analogy to the $6,000 finger might be the $10 order of toast, the case of the customer who didn't have a big appetite, who might complain because he got charged $10 but only ate $1 worth. Analogous to the early discharge complaint is the rushed eater who, still hungry, had to leave the restaurant before dessert and coffee were served. A third example might be "menu creep", the tendency of the chef to stretch recipes, or to substitute less expensive ingredients.

But the analogies broke down, because for them to fit a hospital-patient situation, the waiter rather than the customer would have to be the one making the determinations. So I hope you will excuse me, if I decide to drop this abortive intellectual exercise at this point.

. The fox and the hen house.

The tendency for foxes to take over a hen house is well known. One of the reasons this happens is because sellers spend more time than do buyers studying how new regulations work and how they can live with them. This meeting is well attended by sellers of hospital services -- hospitals, physicians, and their advisers. The buyers in my framework comprise the third party payors, the employers and unions who purchase health insurance benefits for their employees and the individual patients who are usually covered by a group or individual health insurance policy. Relatively few buyers are attending this meeting.

I feel that one of the big problems we have as we change to DRG in New Jersey and as we will change to DRG nationwide, is the public's lack of understanding. We have to do a better job of helping the public understand what DRGs are all about. Because too often the only thing people know about the program is what they read in the horror stories. Everybody knows about the $6,000 finger and they don't want that kind of a bill to happen to them.

But the facts are that if the system is good, it is the public who will benefit from it.

Impact of New Jersey System on Prudential

Let me turn at this point to the impact of the New Jersey system on the Prudential Insurance Company. I can run through this part quickly.

. Impact thus far

First of all, in terms of marketing, this system has had relatively little effect on Prudential in New Jersey because virtually everybody already had health insurance and there was no great line up of people who suddenly wished to transfer their coverage from one carrier to another as a result of this program. Those carriers who enjoyed a differential relative to others still do, even though it's now smaller.

However, with respect to our inforce policyholders, it has had a very positive impact. In New Jersey, approximately 3% of the private market had bought its coverage from us, and being reasonably informed buyers, they knew that they might have bought it for less money from somebody else previously. I believe they are pleased that they're no longer paying through the nose for that choice that they made for one reason or another.

The DRG program has also had an impact on plan design. As you know, most people in this country have major medical coverage. It is the rare person who purchases coverage that only provides hospitalization and surgical coverage. To the extent that some still have a policy which pays so much a day for room and board, and up to so much for ancillary charges (which was the conventional form of coverage 30 years ago before major medical took hold), they are ill-advised to keep it because it does not mesh well with a DRG program. So, we are advising our policyholders to change over to a major medical policy or one that fits DRG better and I presume that other insurance companies are doing the same.

Finally, education. When this program started in 1980, the Health Insurance Association embarked on an ambitious program of educating its member companies to what it was all about. We implemented that program in Prudential. I believe we got the message across successfully to the people who pay claims. They learned how to do it and they understand it. The people who market health insurance coverage in New Jersey also understand the system.

But the audience is much wider than that. There are many other insurance company people who still don't understand it, many policyholders who still don't, and much of the general public still doesn't.

There is a tendency for the gut reaction when one first hears about this program if one doesn't understand it, and I'm talking about the consumer patient now, there is a tendency for the consumer patient to distrust the unknown and to be fearful of this new system. That's why the education aspect is so important.

. Future impact.

What changes will the New Jersey DRG have in the future on the Prudential? I believe this is primarily a question of how well the system is administered. Thus far, the Department of Health has been unable to complete many of its projects on a timely basis. For example, we have not yet had the payor reconciliations the system calls for because data in reasonably accurate form has been unavailable. Also, the system calls for periodically updating the historical base, and the updates have not been made on schedule. To the extent that average lengths of stay have reduced and more cost effective treatment modalities are being rendered, the DRGs, by virtue of their derivation from an out-dated historical base, tend to provide hospital revenues in excess of the hospital's financial needs. So the cost-effective benefits of the system thus far may have largely inured to the hospitals. Only to the extent that the base is updated, will these benefits start being reflected to the paying public.

. Corporate restructuring, aka "unbundling".

One other point which I believe is vitally important, which I haven't heard mentioned in this conference yet, is corporate restructuring, also known as unbundling. This is a topic to which hospital people are giving a lot of attention, but it is almost unknown to the outside world. I believe that as purchasers of health care, we must be very alert that we don't end up with a regulatory system that's a hen house with three walls and one wide open side.

Recommendations

I'd like to wind up with three recommendations.

The first is the question of public understanding. Insurance company people, especially spokespersons for insurance companies, need to understand the system much better. They need to understand what the meaningful measures are, what's good about the system, not just the bad things about it. For example, there are a lot of people, and I've heard this so many times it has become tiresome, who think that DRG is bad because the DRG payments are greater than the controlled charges. Apparently they think that this means that the DRGs must be more expensive than the old payment charges system. In fact, it means exactly the opposite. It means that the payments to the hospitals are greater than the resources the hospitals are expending. So it means that by virtue of being at risk, the hospitals are providing more cost effective treatment, and that's exactly what they were supposed to do. When those more effective costs get into the historical base, they will start reflecting themselves to the benefit of the premium paying public. Within the insurance companies we need to do a better job of making this understood to our own employees and through them to our group policyholders and through them to their employees and the general public. That's my first recommendation.

My second recommendation -- and this is addressed to those of us in New Jersey -- is that we urge our legislators and regulators to give this new system, which offers so much promise, a chance to mature. We should seek to work with the program, to support it and refine it, not to stifle it. And third, I would urge that we give serious consideration in New Jersey to relaxing somewhat the state budget restraints that have decreased the Department of Health staff which administers the program. Nationally, hospitals are a $150 billion industry today. As we heard, New Jersey hospitals in 1982 were a $2.7 billion industry, so we're talking about $3 billion this year and something more than $3 billion in 1984. New Jersey's DRG program will not administer itself. It takes a relatively small number of people, but they have to be adequate in number to man the desks and do the jobs, and they've got to be reasonably sophisticated in their understanding of the technical aspects of the methodology and statistics. I don't know how many jobs there are in the Department, nor do I know what the Department's budget is, but I would be willing to bet that we're talking about something considerably less than 1/2 of 1% of the amount of money that the citizens of New Jersey are spending on hospital care per year. I believe it would be a very wise investment if we're only spending 1/10th of 1% to get it up to 2/10ths of 1%, or whatever that number is, to fill those desks and get the jobs done on a timely basis. I realize that the state is strapped to balance its budget, but it seems to me that it would be an extremely wise investment to spend that kind of money.

IMPACT OF DRGS ON INDEPENDENT UTILIZATION REVIEW ORGANIZATIONS

Jacqueline G. Wilson

Deputy Regional Administrator, Region II, HCFA

"Impact of DRGS on Independent Utilization Review Organizations," will highlight the New Jersey Professional Standards Review Organizations' (PSROs) experiences with DRGs, from the PSRO nursing, physician, and executive director viewpoints. In addition, patient appeals and utilization review organizations' roles under Medicare's prospective payment system will be covered."

Key Points

- There is a definite role for medical review in a DRG or a PPS reimbursement system.
- Incentives to increase admissions must be monitored.
- Outliers must be carefully reviewed.
- The accuracy of the clinical data used to determine the DRG must be assured.
- Patients must be protected against the possibility of adverse effects of incentives to reduce services within the DRG trim points.
- The professional involvement of physicians, nurses and allied health professionals is critical to carrying out this role.
- The experience of New Jersey PSROs is relevant to the evolution of national medical review policies under PPS.

PSRO NURSING PERSPECTIVE

Mary Ann Conte, Area VII Physicians Review Organization, Inc.

The most effective way of addressing the impact of Diagnostic Related Groups (DRGs) on the Professional Standards Review Organization (PSRO) from the nursing perspective, is to discuss the entire Review Process. This is based on the various aspects of the system in which the nurse is involved both within the hospital and the review agency.

According to the PSRO fact book, the concept of reviewing health care practices has evolved over a period of approximately sixty years. The PSRO concept is a culmination of private and public effort in the area of peer review. The earliest approach comparable to PSRO review was initiated in 1954 with the establishment of the first private medical foundation.

In 1965, the Federal Government became involved in quality assurance activities. Initially, they required review of Medicare beneficiaries with the process extended to include Medicaid recipients in 1967. Physician Utilization Review Committees were established within health care institutions to evaluate the medical necessity of services financed through the Federal health care programs.

The review performed by these committees focused primarily on long lengths of stay with little emphasis on the appropriateness of the admission. This process was generally considered to have had very little impact.

PSROs were established by amendment to the Social Security Act in 1972. It is their responsibility to assure that health services reimbursed, in whole or in part, under Federal Programs are medically necessary, meet recognized standards of care and are appropriately provided in the most economical setting.

PSROs fulfill these responsibilities by performing inpatient review, conducting medical care evaluation studies, and reviewing facility, practitioner, and health care service profiles. The trend in early years was to delegate these functions to hospitals, with later years tightening the system to delegation only when hospitals demonstrated the ability to perform review.

With the inception of PSROs, nurses became more involved in the process as Utilization Review Coordinators within hospitals, as well as with PSROs. Nurses are ideal for this function.

- They have the ability to perform review and still remain sensitive to patients' needs.
- They have already established working relationships with many departments within hospitals.
- Their educational background provides them with knowledge of medical terminology and appropriateness of treatment.
- They are skilled in reading physician documentation.

It is important to keep these qualities in mind when I discuss the future of review.

Even prior to DRGs, the review process continued to change under the auspices of the PSRO. In New Jersey, the Utilization Review process has changed from a system of using broad, non-specific, diagnostic criteria and length of stay check points assigned by diagnosis for review and physician referral, to one of performing review on a cyclic basis. This latter form of review, based on the Inter-Qual process, is more objective. It utilizes locally developed generic and system specific criteria with review performed at least every three days and referral occuring whenever these criteria are not met. The review coordinators in our area feel this is a more meaningful process which incorporates quality, as well as medical necessity and appropriateness in the review decisions.

The Medical Care Evaluation process has also changed from one of auditing procedures and diagnoses to one geared toward resolving health care problems which may encompass multiple procedures and diagnoses. The first step is verification of the problem, followed by educational steps (corrective action), and then restudy to measure impact of corrective action.

This historical background information clearly demonstrates that the review process is a constantly changing one capable of addressing prevailing requirements.

New Jersey Senate Bill 446 passed in July, 1979, served as the legislation implementing this State's DRG Reimbursement System. It further called for the development of a utilization program to support the reimbursement system by guarding against unnecessary admissions, improper utilization of services and inappropriate classification of patients to DRGs.

It was the logical conclusion, therefore, to include the PSRO in the review process since both the DRG Program and the PSRO Program are concerned with cost-effective delivery of high quality health care in the most appropriate setting, and both receive financial support from the Federal Government. In addition, PSRO review of Federal patients was already in place.

In March of 1981, review was expanded to include all inpatients for those hospitals already being reimbursed under the DRG methodology.

The remaining hospitals were phased in over the following twenty-month period. For our Organization, which encompasses a six-county area with twenty-one acute care hospitals, this meant a significant increase in the number of discharges under review. It climbed from approximately 92,000 Medicare and Medicaid cases in 1980, to 212,000 inpatients for the first nine months of this year. This definitely had impact requiring changes in staffing and responsibilities. Our staff increased from twenty-five employees in 1980 to the present complement of forty-five. The workload of the hospital coordinator increased with the requirement of review for patients regardless of payor source.

Rather than going into a detailed explanation of our current review system, I will try to identify the areas which required more emphasis under the DRG reimbursement methodology.

Admission Review:

Originally, certain specialty units and hospital-specific procedures and diagnoses were exempt from review for a given number of days; however, in anticipation of the changing Federal requirements, 100% admission review was implemented. The only exclusions from this process are term pregnancy delivered and normal newborns.

Areas emphasized during the admission process include the following:

- Readmissions, especially those discharged and readmitted on the same day, and patients readmitted with same or similar diagnoses, problems and conditions.

  Documentation in the medical record may raise questions regarding the previous hospital stay, and both charts may be referred to the physician level to evaluate the quality, as well as the appropriateness of care, (eg., Was the patient prematurely discharged necessitating the readmission?)

  Prior to DRGs, the hospitals were encouraged to discharge patients after the necessary workup and readmit for surgery rather than to hold the patient in the hospital while awaiting surgery. This was, and still is, good utilization. However, under the Prospective Payment System (PPS), this will have an effect on the payor since it will result in two (2) distinct DRG payments. Therein lies the paradox.

- Review of pre-operative stays, especially to evaluate the medical necessity for more than one (1) day.

- Patients admitted for a procedure identified as a Same Day Surgical Procedure or a procedure which can ordinarily be provided on an outpatient basis.

- Diagnostic workups that, in most instances, can safely be performed on an outpatient basis.

- Elective weekend admissions admitted for care and services that are not usually provided on Saturday and Sunday.

- Preliminary identification of discharge planning needs.

Continued Stay Review:

DRGs are assigned at discharge. In New Jersey, the following cases are considered to be outliers:

- Discharges occurring below the low trim point or after the high trim.

- Patients assigned to DRGs with poorly defined characteristics.

- Hospital-specific low volume DRGs.

- Patients who discharge themselves against medical advice.

- Same Day Stay patients.

- Patients who have died.

In addition, under the proposed 1984 regulations, there will be another category of patients considered outliers. These cases will be those patients requiring transfer between acute care facilities for diagnostic or therapeutic services.

Since retrospective review was frowned upon, it was determined that the best way to insure review of outliers concurrently was to continue cyclic review with some modification. In addition, alternate levels of care are identified during the continued stay process, since outlier or inlier status is based on acute days only.

Discharge Planning:

This function is primarily a task of the hospital's professional staff (Discharge Planner or Social Worker). In evaluating the patient's medical record, the nurse can identify diagnostic specific or socio-medical reasons indicating a potential need for post-discharge care and services, and refer them to the appropriate staff.

The importance of discharge planning in reducing Length of Stay, potentially reducing the rate of readmission, as well as evaluating the future need for continued care at alternate levels, cannot be overlooked.

DRG/Uniform Bill Patient Summary Verification:

Monitoring is performed on a quarterly basis utilizing a sample of records chosen from the following areas:

- Review of individual patient information forwarded to our office after discharge. Days certified at alternate levels of care, denials, DRG and payor codes are included in this information allowing staff to choose records from areawide and hospital-specific problem areas.
- Cases referred by other organizational staff identified during review, monitoring or appeals.
- Review of profiles generated during the editing process. This could include cases with vague codes or invalid principal diagnoses.
- Random selection chosen by the hospital from the most recently completed record abstracts prior to their submission to the processor. The hospitals usually supply a good cross selection of records.

Monitoring visits are conducted at the individual facility with all medical records and corresponding bills reviewed to assure quality and appropriateness of information coded and abstracted. The guidelines utilized by our Organization for coding have been distributed to the area hospitals to eliminate subjective decisions.

A summation conference takes place at all visits to discuss any discrepancies including those requiring physician input. It is the responsibility of the hospital to refer any questionable case to the appropriate physician and submit the documented response to our office. Any unresolved medical issues are forwarded to our Organization's Medical Director for further action.

Due to the complexity of the process of assigning a DRG code, it can no longer easily or accurately be performed manually. Therefore, each case reviewed on the monitoring visit is processed in our office through the official State Computer Program (Grouper). A report of all discrepancies is forwarded to the hospital with a request for corrective action. Documentation of corrected DRG assignment is always required.

Under the DRG system, it is critical that the hospital have a mechanism in place to assure that the final bill completely reflects all data items prior to submission.

The need for timely cash flow may encourage the acceleration of the billing process. However, this may cause an increased burden on hospital staff because of having to resubmit claims.

We have not found any actual evidence of hospitals attempting to abuse the system. The PSRO may indeed be aiding hospitals financially through their monitoring efforts.

The transition to the DRG reimbursement system required a great deal of time and effort on the part of the PSRO nursing personnel in the area of public relations. This was in the form of technical assistance to providers, as well as the education of payors and beneficiaries to both the review process and the reimbursement system. It should be emphasized that forethought and strong planning will prove to be beneficial for a smooth transition.

The implementation of Medicare reimbursement under a Prospective Payment method affords all of us the perfect opportunity to sit back and truly evaluate the system of review which is currently in place. We must be innovative and willing to adjust; give up unnecessary functions, as well as retain what has proven effective. Money allocated for review will be limited. Therefore, functions will have to be combined wherever possible. Nurses in review positions can wear many hats in coordinating activities.

Under the Prospective Payment System (PPS), only limited review functions can be delegated to hospitals; one of these is preadmission review. A nurse can initially screen patient documentation submitted prior to the admission, referring only exceptions to the physician reviewer. This effort may be viewed as punitive. Therefore, the positive aspects should be stressed. It can be a useful quality control tool, as well as an aid for timely scheduling of admissions and surgery. The process can protect both the physician and the hospital against retrospective denial.

Payors, in most cases, are no longer willing to pay for continued stay review; they feel it is unnecessary. However, eliminating all of the continued stay portion of review may not be to the advantage of the hospital. The outcome of the patient depends on many disciplines. Poor management may increase the length of stay, thereby costing the facility money. The nurse reviewer may not necessarily have to review every chart, but she may find it useful on a rotating basis to attend individual unit conferences or shift report, and thus be aware of patients whose testing or treatment is being delayed, or where discharge planning is required. These cases can then be referred to the appropriate department(s) for action. Focusing continued stay review on problematic areas defined by the nurse coordinator should also be considered.

Whatever form continued stay review takes, it should be recognized that as a nurse, the reviewer will not be capable of promoting any action which could jeopardize the patient.

An essential component of the DRG system is accurate completion of the medical record to reflect all diagnoses and subsequent treatment received by the patient; what brought the patient to the hospital, and what was done. Someone is needed to act as a liaison between medical records and the attending physician where problems are not easily resolved. The case can be discussed with the nurse who, in turn, may be able to resolve the problem or refer it to the physician reviewer.

A physician committee should be maintained by the hospital which has the support of Administration and the Board of Trustees, as well as the authority to take action where necessary to change practice patterns. Considering that termination of benefits can no longer occur during the period covered by the DRG rate once the admission is deemed appropriate, an alternate measure should be established. This action could take the form of suspension. If it does, and you really wish to see change quickly, keep in mind group practices and apply suspension to the entire group.

This committee and the review coordinator can help with the initial education of physicians and other hospital staff to the many implications of the DRG System, as well as deal with ongoing problems as they occur.

Open communication between the hospital and the review organization is paramount. In many instances, our Organization has been used as a resource by hospital personnel. Monitoring efforts should identify problem areas and offer suggestions for change and improvement.

The criteria utilized by the reviewing organization should be objective and applied uniformly. It should be shared with the hospitals prior to implementation.

It is essential to keep in mind that the review agency has specific goals, objectives and responsibilities to both patient and payor, and these must be attained. A cooperative effort on the part of both the hospital and the review organization is necessary to assure high quality health care in a cost-effective manner.

PATIENT APPEALS

Nelson Manowitz, M.D., Metropolitan Peer Review

The DRG System conceptually depends upon cost-averaging by all payors.

The individual patient cannot take advantage of any averaging system and upon presentation of a uniform hospital bill he or she will readily note differences between actual hospital charges and DRG price. Built into the system is an appeals mechanism whereby the beneficiary may initiate an appeal to lower his hospital bill to actual charges.

Local Peer Review Organizations are charged with the responsibility of processing and hearing these appeals after notification by the State Department of Health.

Patient appeals are always initiated at the hospital level by submission of a request in writing to the hospital billing office with an explanation why hospital bills should be lowered to actual charges. The hospital billing office refers this to the Department of Health who then, in turn, will refer the appeal to the local review organization.

The Utilization Review Organization is charged with obtaining medical records from the hospital in order to properly identify the specific areas of complaints by the patient with specific reference to lowering his hospital bill.

The U R O Medical Director or his designate reviews the chart contents in order to verify the diagnoses and procedures on the face sheet of the hospital record.

Insofar as the DRG System is based in part upon identification of the primary or major diagnosis, the reviewing physician must also substantiate that the chart contents reflects the diagnosis. Along with this, the reviewing physician must identify each contributing secondary diagnosis and the procedures, whether operative or diagnostic.

The physician reviewer must scrutinize the chart for quality of care since a parallel issue of patient appeals will occasionally be complaints about quality of care rendered.

Physicians have for decades noted that good quality associated with a fair bill for services rendered produces satisfied patients and conversely, poor quality associated with a larger than anticipated bill produces disgruntled, unhappy patients. The DRG process may magnify discontent by suspicions of having been overcharged and they will seek and elaborate on every minor annoyance experienced during the hospital stay. The U.R.O. Medical Director must reassure the appellant that quality care was indeed rendered.

The primary diagnosis in the DRG System is not necessarily that condition which prompted admission to the hospital. It is defined as the the establised diagnosis causing the admission to the hospital - and not necessarily the presenting admitting syndrome. For example, upper gastrointestinal bleeding or hematemisis, may be the presenting complaint, but the established diagnosis may be gastric peptic ulcer and this would become the primary diagnosis. Many conditions may cause upper gastrointestinal bleeding, but each of these conditions absorbs varying amounts of hospital resources so that the final DRG must be reflective of resources consumed and not the presenting complaint. For example, if a patient is admitted with upper gastrointestinal bleeding secondary to an acute gastritis, one may conservatively treat this individual after appropriate endoscopic diagnosis with medications, etc., but a patient with bleeding secondary to an acute gastric ulcer may or may not respond to conservative care and in a certain percentage of cases requires a more aggressive approach through surgical intervention, and with subsequent patient exposure to potential complications. These areas are given appropriate weight by the computer grouper along with age and potential complications that may present itself during the hospital stay.

After chart review and prior to the appeal hearing, the face sheet data is fed into a grouper and the DRG number is obtained. If this DRG number differs from the hospital's DRG number, then the review organization informs the hospital record room and they may re-calculate their DRG number and billing. In New Jersey the hospital and payors may appeal for a change in the DRG number but only the patient appellant may appeal to lower his bill to actual charges.

The appeals committee usually consists of the Executive and Medical Directors, the Nurse Review Director and the review organization DRG Coordinator.

The substantive area of appeals involves rendering a decision relative to the question of whether the individual should pay charges or the DRG price. Most appeals revolve about the shorter end of typical days since the longer hospital stays will produce comparable per diem and DRG prices. Many patients will complain that they would have stayed a much longer time if they knew in advance that a full DRG price applies equally to short and long stays within trim points.

Surgical cases consume greater amounts of resources during the first few days of hospitalization because of operating and recovery room charges after which routine care takes a downward slope on the graph. Complications, of course, will produce a plateau angle or even an escalating line of costs and may under unusual circumstances, produce charges which are higher than the DRG price.

Medical cases usually show a more plateaued type of curve representing hospital resources consumed and actual charges parallels comparable fractions of DRG price and this may influence the appeals panel decision.

Because patients cannot take advantage of the averaging costs, the review panel frequently decides that acutal charges of less than 50 percent of the DRG prices should revert to charges and the hospital bill reduced to that level. On the other hand, if charges exceed 75 percent of the DRG price, the appeals panel quite frequently opts for the DRG price as the final hospital bill. The gray area is usually that which involves a per diem charge of 50 percent to 75 percent of the DRG price.

It is in this gray zone that I believe the attending physician and patient should demonstrate a mutual desire to shorten hospital stays by early discharge planning and this will be duly noted by the appeals panel. The appeals physician will note the number of hospitalized days in proportion to the number of trim point (or typical) days and will also note the DRG price in relationship to the per diem charges at that point in time to determine the percentage of hospital days in relationship to the DRG price. If there does not appear to be a high cost factor such as intensive care or operating room charges, then the appeals panel may opt for daily charges in the 50 percent to 75 percent gray area.

The review panel physician is obligated to explain the therapeutic philosophy and to reassure the individual that appropriate care was rendered. Unless adequate explanation of medical care and quality is given at this time, successive misdirected discussion involving alleged poor care will confuse pertinent discussions.

The patient appeals panel is charged primarily with examination of the chart for resources consumed irrespective of the patient's ability to pay or their individual indemnity type of insurance policies. The appeals panel will often decide in favor of a lower price since prospective reimbursement was designed for insurance companies as the primary pay source.

Final decisions may or may not be given to the appellant at the time of appeals. If further chart review is necessary, decisions will be mailed to the appellant with an explanation that the appellant may appeal to a state council. This group consists of medical directors of all review organizations in association with the Medical Society of New Jersey and the New Jersey Hospital Association.

In the final analysis, patient appeals must be physician peer review oriented in order to medically relate the monetary relationship of costs to illness. Since the DRG process is rather complicated for the individual appellant to fathom, and unless appeals are physician-mediated, the appellant may very well feel trapped in a bureaucratic process far too complicated for him to comprehend.

As the Medical Director of my review organization, I feel it is important to always inquire and ask "How do you feel?" This frequently brings forth an expression of gratitude reflective of a peer physician's primary interest in the patient's welfare as well as his pocketbook.

UTILIZATION REVIEW ORGANIZATIONS IMPACT ON PROSPECTIVE REIMBURSEMENT AND DRG APPEALS

Bernice Ferguson, New Jersey Department of Health

Problem and Background

The growth of hospital costs in the United States, particularly between 1960 and the present, has been documented by many; among them, the Department of Health and Human Services (DHHS), academic investigators, and third-party payers as far back as 1968. There are two characteristics that describe the behavior of hospital costs:

- They are climbing at a rate greater than that of the general inflation.
- They are increasing both in total amounts and in their share of the total national health expenditures.

They now comprise over 40 percent of the total national health expenditures. As awesome as some of the national figures are, the spiraling cost of health care in the State of New Jersey was equally of concern.

The reaction of the public to these cost increases resulted in the (1968) Harris Survey, which illustrated the strength of public concern about the increased costs of hospital care. The second piece of federal legislation (Public Law 93-641) approached the problem of utilization through control of the number of beds available to serve the community through certificate of need for new capital expansion. The third piece of federal legislation, which indirectly addressed the utilization of hospital days, was the Health Maintenance Organization (HMO) Act, Public Law 93-222.

All three of the above pieces of legislation then were aimed at decreasing the utilization of hospital days by the population. The single piece of federal legislation that deals with the cost of the hospital day was also contained in Public Law 93-641, which enabled the federal government to fund experiments in prospective reimbursement systems in order to counter the "blank check" reasonable cost reimbursement system set up by Medicare and Medicaid in 1966. The New Jersey prospective reimbursement DRG Case-Mix System is one of seven experimental projects funded by Health Care Financing Administration (HCFA).

The recognition of the crucial link among hospital costs, efficiency, third-party payers, and quality of care has been a distinguishing feature of the DRG System since its inception as an experiment in 1976. The fact that Chapter 83, P.L. 1978 gives statutory recognition to the utilization review process, and permits an approximate evaluation of the reasonableness of the DRG average cost through the DRG Appeals process are landmark events in hospital regulations. Moreover, the formal mechanisms of utilization review and quality assurance for "typical cases" (DRG inliers) and "atypical cases" (DRG outliers) as specified in the 1983 Procedural and Methodological Regulations represent the means by which the integrity of the costs and the accuracy of the DRG Assignment can be validated. The DRG Appeals process, also in the regulations, permits the recognition of legitimate variation in institutional quality and costs in relation to changes in new medical technology and utilization of hospital resource consumption.

The case-mix reimbursement system initiated in New Jersey offers a number of incentives for better hospital management, more cost-effective patient care, and constraints in the rise of health care costs. However, a reimbursement system alone cannot ensure quality of care for hospital patients, and may in fact encourage hospital practices which are aberrant responses to the intentions of the prospective system. The Utilization Review Regulations promulgated under Chapter 83 and approved by the Health Care Administration Board July 3, 1980, is intended to meet the problem of aberrant institutional responses to prospective reimbursement regulations and to attend to issues of quality care which are not explicitly addressed by reimbursement.

The Utilization Review Regulation specifies that all patients admitted to Chapter 83 hospitals must be reviewed for medical necessity and appropriateness of care under the supervision of a qualified Utilization Review Organization (URO). In 1981, eight (8) Professional Standard Review Organizations (PSRO's) were designated as certified Utilization Review Organizations, responsible for review of all patients admitted to acute care hospitals in New Jersey.

URO Earlier Activities

Since the implementation of the Chapter 83 Case-Mix Reimbursement System, the Department of Health has been dedicated to developing quality assurance measures as an integral and necessary part of the system. In order to ensure the implementation of such measures, in August, 1976, the Department offered to perform a quality study as a part of the original proposal to HCFA. The study was entitled Development of Quality Measures and consisted of establishing quality parameters for a selected group of DRG's. It was the Department's intention to have these parameters developed by a Medical Advisory Committee that would select DRG's "common to all New Jersey hospitals for which quality measures might be arrived at by consensus". It was in fulfilling this commitment to quality assurance that the Commissioner's Physicians' Advisory Committee (CPAC) formerly convened on August 31, 1977.

Representation on the Committee included the medical disciplines of surgery (including orthopedic), internal medicine (including cardiology), pediatrics, obstetrics and gynecology, family practice and oncology. The New Jersey Medical Records Association was also consistently represented. Committee activities focused on small working groups designated by specialty and proposed criteria indicating the type of care that should be given to particular patient types.

From the onset of quality assurance activities, the Department has recognized the necessity of incorporating PSRO capability into the system. Prior to their designation as certified URO's, the PSRO's were involved with the subcommittee composed of representatives from the New Jersey Medical Records Association, the PSRO's, and the Department was known as the Subcommittee on Cost and Data Feasibility.

On March 29, 1978, the CPAC approved a set of 197 parameters (quality measures) for 28 DRG's, and set forth a policy statement proposing how these measures might be used by the Department and by peer review and institutional quality assurance mechanisms. A proposed pilot study was then submitted with the Department's request to extend the Federal contract. It was the purpose of the pilot study to test the feasibility of collecting the recommended quality measures, and the reliability of the data. Approval of the extension (effective January 1, 1979) enabled the Department and its advisors to proceed with all elements of the pilot study:

- To monitor and improve data reliability and uniformity.
- To develop methodology for institutional quality assessment (and integrate quality assessment, planning, and reimbursement).
- To expand and modify quality criteria and standards.

With the completion of the Quality Assessment Pilot Study in 1982, the Department, the CPAC, and the URO's have continued to work diligently to enhance quality of care throughout the State. On May 12, 1982, the Hospital Rate Setting Commission (HRSC) expanded the role of the CPAC as advisors to the HRSC in the case of DRG Appeals. The Department remains committed to quality assurance through the continued efforts of the CPAC and the URO's and most important, the quality assurance activities undertaken by each New Jersey hospital.

Utilization Review Regulations: Structure and Implementation

The DRG system requires utilization review to be performed on all cases, not only Medicare and Medicaid. The focus of the utilization review function is to determine medical necessity of admissions, continued stay certification, and appropriateness of level of care (i.e., rehabilitation facility, nursing home, home health agency, outpatient services, etc.).

In New Jersey, the review organizations provide non-delegated review and/or oversight and monitoring of UR activities in acute care hospitals. Review organizations also provide independent monitoring of the system which is accomplished through physician peer review mechanisms.

The UR Regulation further requires the use of reasonable sampling techniques to audit medical records, and DRG assignments of diagnoses and procedures, to ensure that patients are assigned to the appropriate DRG's. Both typical cases (inliers) and atypical cases (outliers) are to be reviewed periodically. The findings by the qualified URO are binding determinations. Their findings are used in a number of ways:

- For typical cases (inliers), lying within DRG trim points, any determination of medically unnecessary days are used to inform payers about the number of necessary acute days of care and services for which they are paying. Such determinations continue to be legally binding on federal payers. All other payers (Blue Cross, Commercials) may choose whether or not to attend to the review organization determinations.
- Review organizations may direct hospitals to adjust the price for a particular case when it has been determined that the case has been misassigned to a particular DRG.
- The URO's also guide the hospital in assigning financial liability concerning unnecessary days when the patient is responsible for using scarce health care resources.
- For atypical cases (outliers), the review organization's findings are used to guide payers in decisions about reimbursing certain hospital admissions for medically unnecessary days used above the DRG trim points, and enable payers to identify days of SNF and ICF care, i.e., days of care which should have taken place in a skilled nursing facility or intermediate care facility, but which did not because of the inability of the hospital to place the patient in the appropriate facility. The idenfitication of such days enables Medicare to adjust its payment for SNF days, enables Medicaid to identify when the SNF and ICF rates may be charged, and enables all other payers to determine days for which the patient is liable.

The implementation of the Utilization Review Regulations relies on the rate adjustments, which the Department of Health submitted for approval by the Hospital Rate Setting Commission. Under Chapter 83, UR costs are incurred by URO's and hospitals. URO's incur costs for various monitoring and oversight activities, for the performance of non-delegated review on all Medicaid inpatients. Hospitals which are delegated by the qualified URO's perform review functions in relation to most inpatients, except Medicaid patients who are reviewed on a non-delegated basis.

When the UR Regulation, which was issued pursuant to Chapter 83, was implemented in 1981, the question arose as to how much money URO's and hospitals should receive to perform their various review functions. The Hospital Rate Setting Commission established an interim rate per admission as the amount to be flowed through the mark-up factor to finance both the hospital and the URO review. In March, 1981, the Department of Health was charged by the Hospital Rate Setting Commission with the task of developing a payment methodology. The methodology completed in 1981 was used to arrive at a finalized UR amount.

The UR Task Force, a subcommittee of the Reimbursement Advisory Committee, was organized by the Department and developed a reasonable cost per admission of the URO after completing a cost analysis of those organizations. The methodology and the associated per admission amounts were subsequently approved by the Hospital Rate Setting Commission.

Patient Appeals

The patient appeals process came about because the UR Regulations provided for the establishment of an appropriate mechanism by which to hear and adjudicate appeals submitted by patients, payers, physicians or hospitals, concerning the determination made under the regulation. This includes a physician peer review mechanism for consideration and settlement of complaints and appeals related to the Diagnostic Related Group System.

One of the earliest indications of the need for a patient appeals process was recognized in the infamous case of the "$6,000 finger", which occurred when certain DRG's from the old 383 DRG's formed in 1976-1977, by Yale University, were clinically heterogeneous. This resulted in some DRG's which were not meaningful to physicians and thus, not useful as a basis for grouping the cost of treatment variation and clinical management. The clinical heterogeneity occurred in the case of the "$6,000 finger" because the DRG (348) contained patients with fractured fingers, in addition to patients whose fractured hips had been surgically repaired by an internal fixation device. The development of the new 467 DRG's resolved the problem of heterogeneity because the current DRG's are now based on certain underlying clinical rationales.

Most appeals are requested by individual self-pay patients not informed about the averaging effects of the DRG Reimbursement System. Approximately 1,500 appeals have been adjudicated during the first three and a half (3½) years of the DRG case-mix system, and about half were resolved in favor of the appellant. Furthermore, the 1,500 appeals should be viewed within the parameters of 1.2 million hospital discharges per year. In the opinion of the Department of Health, the appeal system is working very well, as the patient is our primary focus.

The purpose behind the development of the patient appeal process is to create an equitable and cooperative relationship between the Department of Health and the public by providing for the settlement of differences arising from the DRG system, through an efficient and equitable appeals procedure. In addition, the guidelines are offered in an attempt to give guidance to the patients payer, physician and hospital regarding the processing of appeals. The primary objective is to ensure a standardization of operating procedures so that all related enterprises are rendered objective and impartial treatment in appeals proceedings.

Utilization Review Plan

In the past, some hospitals have questioned the need for a comprehensive review system because of the incentive embodied in the DRG assignment code. The UR Regulations under Chapter 83 are designed to provide comprehensive review because of the nature of the prospectivity of the DRG System. The utilization peer review mechanism simply avoids stagnation of the DRG case-mix:

- By allowing the flexibility of the qualified URO to "focus out" those patients for whom the need for the admission is clear, and adopt to the needs of the hospital case-mix which obviates 100% of direct reviews.

- By recognizing the qualified URO's as being the crucial link between provider, payer, and the Department of Health in providing parameters for measuring quality of patient care.

In New Jersey, revisions of the UR plan were made in 1982 to integrate the more positive aspects of:

- Concurrent and retrospective reviews.

- Focussed review.

- Quality review studies.

- Profile analyses.

A retrospective analyses of the DRG case-mix is being utilized in all Chapter 83 hospitals to identify aberrant practices. This is being achieved by statistical anlayses and Quality Review Studies (QRS), both hospital-specific and area-wide, which highlight DRG clusters and physician practice patterns that may pose potential problems for hospital administrators. Once problems are identified, they are readily integrated with the concurrent review process in terms of immediate attention by the attending physician. Under a total retrospective review system, however, it is simply not possible to have the same timely impact that occurs with concurrent review; and prospective discharge planning in a fixed price per case reimbursement system.

Hence, the present advantage of the existing utilization review system in New Jersey allows for the development of a valid, reliable and a more scientific approach for assisting hospitals in determining the appropriateness of care in terms of the necessity of a patient being admitted and measuring the proper utilization of ancillary services.

The prospectivity of the case-mix quantifies resource consumption rather than the utilization of hospital beds. By definition, the standard measures of resource consumption used to develop payment rates are charges, which represent proxies for the different tests and procedures performed; and days, which represent length of stay. This change in focus on hospital resource consumption makes it imperative that each hospital's administration conduct annual self-analysis of their case-mix and occupancy rate to include:

- Medical records audit.
- Billing.
- Coding.
- Shift in case-mix determination.
- MDC/DRG Volume.
- Degree of change in service and resources (ancillary services) in comparison with DRG payment rates.

Other revisions have been instituted to allow for a uniform method of reporting by the URO's. All revisions were necessary to enhance the data collection, data retrieval and data analysis capabilities.

Variation in Institutional Quality and Cost

Hospitals under Chapter 83, P.L. 1978 may, upon application to the Hospital Rate Setting Commission, request any management or intensity changes related to direct non-physician patient care costs in the form of a DRG Appeal:

- DRG Appeal - Any issue concerning differences in an institutional course of action or in patterns of medical practice, affecting a given Diagnosis Related Group or group of Diagnosis Related Groups, which is likely to significantly affect one or more institutions, is considered a Diagnosis Related Group appeal pursuant to Section 8:31B-3.58(b) of the Procedural and Methodological Regulations.
- Clinical Rate Appeal - Any issue concerning a reimbursement adjustment for inadequacies reflected in the base year, that is a result of increased utilization of an institutional course of action or patterns of medical practice is considered a clinical rate appeal and will be reviewed by the Department and augmented by the Commissioner's Physicians' Advisory Committee (CPAC). (See Exhibit I)

The distinguishing features between a DRG Appeal and a Clinical Rate Appeal are:

- A DRG Appeal is a retrospective determination of changes in medical practice indicative of improvements in the standards of quality of care, supported by the hospital's self-analysis of DRG case-mix management profiles.
- A Clinical Rate Appeal is a retrospective determination of an increase in utilization of an established medical practice, supported by the hospital's self-analysis of DRG case-mix management profiles.

The Department of Health, under regulatory mandate, may request the URO's, from time to time, to evaluate quality assurance measures undertaken by individual hospitals. Two examples which reflect both the magnitude and importance of the URO participation are:

- The URO analysis on the appropriate use of Hyperalimentation.
- The URO Early Discharge Study.

During 1981, a New Jersey Hospital presented a DRG Appeal before the Hospital Rate Setting Commission requested reimbursement for the provision of hyperalimentation services. In order to assist in assessing the clinical appropriateness of the issues, the URO was requested to evaluate the hospital's existing program. As a result of the URO's findings, it was deemed clinically appropriate; however, the protocol for providing the service was recommended to be more structured than the one proposed by the hospital.

In the beginning of 1983, there were several health care organizations in New Jersey who voiced their concerns about the reduction in length of stay being hazardous to patients and, subsequently, resulting in many patients being re-admitted because they were discharged to soon. A study of admissions and re-admissions conducted by the URO's has revealed that the DRG system has not significantly increased the number of re-admissions in New Jersey.

The results of the Early Discharge Study, which analyzed re-admission data from the northeastern and southeastern part of the State, simply stated, the potential for early discharge phenomenon is minimal. The analysis included 906,878 discharges out of a total of 1,266,186 State discharges (71.9%), and 83 hospitals out of 91 acute care hospitals on the DRG system in 1982.

Conclusion

Based on New Jersey DRG experience, the utilization review system has extended the capabilities of the hospital in managing its case-mix and has fostered prospective discharge planning of patients beyond the acute care setting.

With the passage of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA-HR4961), the Health Care Financing Administration (HCFA) will determine the number of Peer Review Organizations (PRO's) that will be operative in the State of New Jersey. TEFRA and The Social Security Amendments Act of 1983, has served as a catalyst in two mergers among the eight URO's which has reduced the number to four.

Moreover, there are a number of factors to be considered before reducing the number of URO's to less than two PRO's in New Jersey.

- HCFA should allow for regional differences in population within the State.

- The UR process must maintain its objectivity. As it now functions in New Jersey, the URO's maintain the check and balance between provider and payer. If the UR process becomes payer biased or hospital biased, the process may lose its public accountability under a prospective payment system.

- With more than one PRO, patient appeals can be conducted in close proximity to the provider hospital; hence, any expansion of jurisdictional boundaries will necessitate longer travel distances for the appellant, which may create potential public relations problems.

In summary, case-mix management is predicated on four major management review systems:

- Cost accounting.
- Clinical.
- Utilization of resources.
- Data information.

DRG case-mix management is necessary to respond to the prospective payment technology, which enables providers to identify hospital-specific case-mix with hospital cost.

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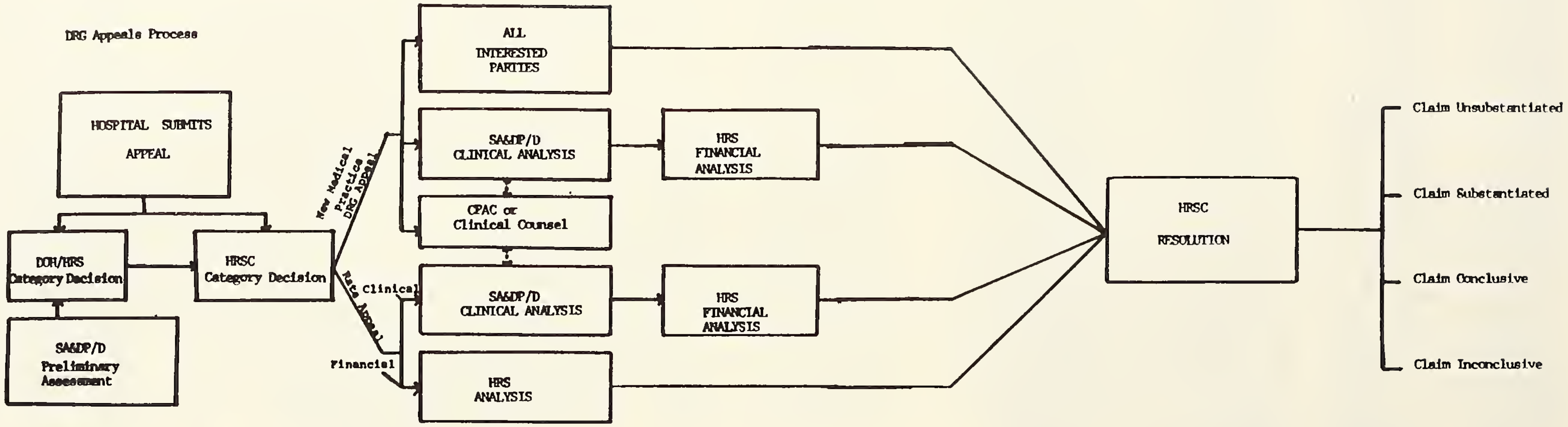
EXHIBIT I

DRG Appeals Process



Definitions:

1. **DRG Appeal:** New Medical practice/technology not currently in practice across the State. (e.g. Dardik Biograft)
2. **Clinical Rate Appeal:** Changes in utilization practice related to improved technology that meet the criteria set forth in Section 8:31B-3.54 of the Procedural & Methodological Regulations* (e.g. Blood Fractions).
3. **Financial Rate Appeal:** Changes in cost (i.e. increases or new) that are not reflected in the base year. (e.g. CFA, price level depreciation)

CPAC - Commissioner's Physicians' Advisory Committee
DOH/HRS - Department of Health / Hospital Rate Setting
HRSC - Hospital Rate Setting Commission
SADP/D - Systems Analysis and Development Program/Development

UTILIZATION REVIEW ORGANIZATIONS' ROLES UNDER MEDICARE'S PROSPECTIVE PAYMENT SYSTEM

Allan Lazar, Health Care Financing Administration

I am honored to participate in the first national conference to examine the keystone of the Medicare prospective payment system (PPS) -- diagnosis-related groups (DRGs).

The DRG-based system offers many incentives:

- It encourages hospitals to specialize in those types of cases that they can treat efficiently and effectively.
- Hospitals will specialize in providing services, and achieve the volume of cases needed to maintain proficiency in treatment.
- It also encourages the reduction of unnecessary services that do not improve patient care by fixing the payment amount regardless of services rendered.

Nevertheless, we cannot ignore the fact that prospective payment does offer its own unique temptations. There are five specific temptations that must be addressed and dealt with under prospective payment:

- The temptation to admit patients who do not need to be admitted.
- The temptation to perform higher paying and more significant procedures than would otherwise be performed.
- The temptation to shift patients from hospital to hospital, or to exempted units within a hospital, in order to maximize reimbursements for each case.
- The temptation to discharge patients too soon.
- The temptation to reduce the quality of care.

The Health Care Financing Administration's (HCFA) medical review system is aimed at helping to ensure that hospitals don't fall prey to these temptations. Currently, professional standards review organizations (PSROs) and fiscal intermediaries (FIs) are performing several review functions (they will also be performed by the peer review organizations (PROs) when they are implemented).

- Admission review is crucial to successful implementation of PPS, because a finding that an admission is medically necessary and covered leads to a full DRG payment. If an admission is found to be unnecessary or inappropriate, the hospital will not receive the DRG payment. As a part of admission review, we are now in the third quarter of the admission pattern monitoring (APM) program. APM identifies those hospitals for further review where unusual increases in admissions are tied to significant changes in length of stay. So far, we have initiated corrective action plans for thirty-nine hospitals. In addition to APM, we will also review a 5 percent sample of all admissions plus all admissions within seven days of discharge, transfers from PPS hospitals to any other hospitals, all use of swing beds, all transfers to rehabilitation units, and the majority of transfers to distinct part psychiatric units. In addition, we will perform admission review on all cases subjected to DRG validation.
- Invasive diagnostic and therapeutic procedures could raise DRG classification, thus leading to increased reimbursement. In addition, invasive procedures could be dangerous to the patient. Therefore, at a minimum, medical review agents will review every pacemaker claim. We have also asked them to identify other procedures which may require intensive review.
- DRG validation is critical to ensure that the DRGs being reported are accurate and not creeping into higher classifications. At least quarterly, the medical review agent will review onsite a 5 percent sample of DRG assignments to determine if the diagnostic and procedural information that led to the DRG assignment are substantiated by the medical record and that treatment and diagnostic studies "match" the principal diagnosis.

The inception of the prospective payment system has underscored our continuing major concern that the quality of medical care in this country not be endangered. We are acutely aware that we are facing new challenges to quality review under PPS. We understand the responsibilities that we face in assuring quality patient care.

To that end, PRO quality objectives will have much more emphasis than PSRO quality objectives have been given in the past. We will be actively seeking out ways of identifying realistic quality objectives to achieve a significant increase in the quality of patient care. We will require PROs to assist us in this effort by developing the necessary data collection and analytic tools to establish and achieve such objectives. PROs will also be required to meet quality objectives among the following areas:

- Reduce unnecessary hospital readmissions resulting from poor care provided during the prior admission.
- Assure the provision of medical services which, when not performed, have significant potential for causing serious patient complications.

- Reduce avoidable deaths.
- Reduce unnecessary surgery or other invasive procedures with significant potential for causing serious patient complications.
- Reduce avoidable postoperative complications.

Some of the required utilization review, such as admissions within seven days of discharge and pacemaker insertion, reducing unnecessary admissions, and reducing unnecessary surgery, will also impact on quality objectives. Other quality objectives, such as reducing avoidable deaths and assuring the provision of needed care, address concerns quite separate from those of utilization review.

Now that I have covered the kinds of medical review most of the country will be performing (with the exception of the other waivered States), let me briefly describe the two main differences we anticipate in PRO review in New Jersey.

First, while the PRO would be performing the same admission activities, it may need to look at a higher percentage of admissions. This is due to the higher percentage of cases classified as outliers in New Jersey. Both the short-stays as well as the long-stays will be reviewed. Also, the PRO will review the exception outliers; a major difference between the two systems.

Second, we expect that the PRO will validate a higher percentage of DRGs because the percentage of outliers, each of which will have its DRG validated, is higher (35 percent as opposed to 4.5 percent nationally). Also, we want to validate DRGs that represent cases other than outliers.

THE PEER REVIEW ROLE OF THE PHYSICIAN IN THE DRG PROGRAM

Alexander E. Rodi, D.O., Southern New Jersey Professional Standards Review Organization

The role of physician participation in the PSRO process within the DRG system in New Jersey has given critical emphasis to several areas of our review responsibility.

Decreased emphasis in the DRG system

- Importance of the length of stay.
- Focusing out.

Increased emphasis in the DRG system

- Timeliness in the utilization of resources.
- Denial of non-acute days to limit outliers.
- Evaluation of appropriate care.
- Validation of coding processes.
- Under-utilization of services.
- Peer Review.

The areas of increased importance and relevance are the timeliness and appropriate utilization of resources within the high and low trim points of the DRG, rather than the length of stay. We are now evaluating the acute days within a hospital stay to assure that the DRG trim points are not effected by non-acute days. Physician reviewers deny and carve-out identified days of non-acute care often preventing outliers from occurring. Therefore, it is quite obvious that the quality of care rendered must be assured in the hospital stay of the patient. This places greater responsibility on physician review and monitoring which necessitates an intensive physician review process.

We are also concerned that potential under-utilization of services to a patient limits quality of care. For example, we fear a cutback in essential services and premature discharge of patients to minimize resource consumption. We do not support full payment of the DRG rate when services or medical care are insufficient according to the diagnosis. The Peer Review process is a crucial part of this review.

Another important element is our appeals mechanism which provides for the evaluation of the relationship of resources utilized in respect to the DRG rate. This appeals process may be requested by the patient, provider or third party payor. The appeals process includes a complete evaluation of the appropriateness of services and care which must be rendered on a timely basis.

Considerable attention must be paid to the DRG coding process, initially for the validation of diagnosis, and then for sequencing of the diagnoses on the facesheet. Frequently these elements are not consistent with the medical record. Appropriate coding prevents inaccurate diagnoses of patients' illnesses which are potentially harmful to the patients' welfare. For example, alluding to a diagnosis of schizophrenia by a consultant which utlimately is not confirmed may affect the patient's insurability in the future. This can occur if non-physician personnel are inadvertently maximizing DRGs and unilaterally extracting information from the medical record.

Legibility of the chart and documentation reflecting acute care becomes even more important and, of course, timeliness of completion of the chart is very important to the provider so that reimbursement may be made on a timely basis.

Prior to DRG, comparative evaluation of hospital stays was based primarily on the length of stay. Now the important consideration is the appropriateness of the services provided in an institution to maintain an acceptable level of medical care. This complicates comparison data but can be resolved by a more thorough quality review process than previously utilized. Data bases need more sophistication to evolve an efficient method of comparing available resources and utilization of these resources within the different institutions and locales.

Several examples where we believe the Southern New Jersey PSRO has had definitive impact are noted in the following slides:

- Effect of Denied Days on Outlier Status.
- Reducing Coding Errors through Monitors and Technical Assistance.
- Impact of Improved Accuracy in Coding and Sequencing for DRG Assignment.
- Effect of Same Day Surgery Policy.

The Health Department of the State of New Jersey must be complimented for its foresightedness in initiating such an innovative program while our country is in a fluctuating health care environment. Because of their initiative, they have placed those of us in New Jersey involved in this process in the forefront in the monitoring and oversight of cost-effective delivery of health care. We are very pleased as a PSRO that the State of New Jersey has entrusted our organizations to support the program by physician participation and direction in the development and implementation of the DRG program.

The PSROs are concerned about the cost-effective use of the health dollar and are working with all health disciplines to constrain inappropriate use of resources. We wish to ensure prudent utilization of health care monies in light of the appropriate needs of the consumer and the available resources. We are sensitive to the concerns of patients, industry, third party payors and all providers in the efficient provision and accessibility of health care to our citizens. Ultimately, our overriding concern as physicians shall always be the delivery of quality care to our patient population.

DECREASED EMPHASIS IN THE DRG SYSTEM

- Importance of the length of stay.
- Focusing out.

INCREASED EMPHASIS IN THE DRG SYSTEM

- Timeliness in the utilization of resources.
- Denial of non-acute days to limit outliers.
- Evaluation of appropriate care.
- Validation of Coding processes.
- Under-utilization of services.
- Peer Review

Decreased Emphasis

- Importance of length of stay. Especially true for the rest of country since Medicare is not even requiring continued stay review but is concerned about admissions because once an admission is certified the whole stay is certified. Hospitals will have to be more concerned with length of stay if case becomes an outlier because the PRO can deny days retrospectively in outlier cases.

- Focusing out. Because of importance of certifying only necessary admissions, focusing out could be problematic.

Increasing Emphasis

- Denial of non-acute days to limit outliers. This is done concurrently in New Jersey and is important in our system. Therefore, SNJ/PSRO reviews all cases every 3 days of patients who are hospitalized longer than 7 days to keep a tight review and reduce outliers.

EFFECT OF DENIED DAYS ON INLIER-OUTLIER STATUS

JANUARY - JUNE 1983

	Based on Acute Certified Days	Based on Acute and Denied Days	Difference
Total Discharges	2022	2022	0
Inliers	1520	1348	+172
Low Outliers	45	6	+39
High Outliers	374	585	-211

Effect of Denial Days on Inlier-Outlier Status

Total Discharges = those discharges with denied days in the 6 months from January - June 1983.

Inliers:	Paid by "Price Per Case" by DRG. Inlier status is based on acute certified days used within the trim points. Because review was being done and days were denied the number of inliers is higher. If no days had been denied, there would been less inliers and more cases of outliers which are paid by charges for each day used from the day of admission.
Low Outliers:	In New Jersey we have low trim points. Low outliers, therefore, are only paid by charges for the day or days used and would not be entitled to a full price per case payment. Therefore, it's desirable to deny the unnecessary days early in a stay so that the case doesn't just go over the first low trim and get entitled to a full DRG payment.
High Outliers:	High outliers are paid by daily charges going back to the day of admission. Therefore, reducing and keeping high outliers to a minimum is important.

IMPACT OF DENIED DAYS ON HIGH-OUTLIER

JANUARY - JUNE 1983

	Based on Acute Certified Days	Based on Acute and Denied Days	Difference
High Outliers	374	585	-211 Cases
ALOS	32.7 Days	36.3 Days	-3.6 Days
# Days Used	12,230	21,236	9,006 Days

Impact of Denied Days

By denying unnecessary and inappropriate days we:

Reduced the number of high outliers by 211 cases and the average length of stay.

For the 374 high outlier cases that were necessary the ALOS was 32.7 days for a total of 12,230 days to be paid by daily charges.

If days had not been denied, there would have been 585 days with an ALOS of 36.3 days for a total of 21,236 days to be paid by daily charges.

Saving = 9,006 less days entitled to reimbursement.

REDUCING CODING ERRORS THROUGH MONITORS AND TECHNICAL ASSISTANCE

1980 DRG HOSPITALS

Hospital	A	B	C	D
1980	8.0%	13.3%	23.5%	5.0%
1983	4.0	0.0	8.0	0.0

These were the hospitals that became DRG in 1980. The rest came under DRG in 1981 and 1982.

IMPACT OF ACCURACY IN CODING AND SEQUENCING FOR DRG ASSIGNMENT

PATIENT WITH A KNOWN DIAGNOSIS OF BRONCHOGENIC LUNG CARCINOMA ADMITTED TO THE HOSPITAL FOR CHEMOTHERAPY.

Hospital DRG Assignment Principal Final Diagnosis	Code	DRG	Price per Case
Bronchogenic Lung Carcinoma	162.9	082	$1866.84
SNJ/PSRO DRG Assignment Principal Final Diagnosis			
Admission for Chemotherapy	V58.10	410	633.21
Bronchogenic Lung Carcinoma	162.9		

IMPACT OF ACCURACY IN CODING AND SEQUENCING FOR DRG ASSIGNMENT

PATIENT WITH A KNOWN DIAGNOSIS OF CARCINOMA OF THE LUNG ADMITTED THROUGH THE EMERGENCY ROOM FOR SEIZURE DISORDER.

Hospital DRG Assignment Principal Final Diagnosis	Code	DRG	Price per Case
Carcinoma of Lung	162.9	010	$2318.31
Seizure Disorder	780.3		
SNJ/PSRO DRG Assignment Principal Final Diagnosis			
Seizure Disorder	780.3	024	$1312.00
Carcinoma	162.9		

EFFECT OF SAME DAY SURGERY POLICY*

AREAWIDE ELECTIVE ADMISSIONS WITH SAME DAY SURGERY PROCEDURES

	# Cases	#Admission Denials	Cost**
July 1981 - June 1982	12,153	5	$11,662,080
July 1982 - June 1983	7,796	94	7,393,920

Difference - $4,268,160

*Policy Implemented July 1, 1982

**Estimated Average Cost per Case

EFFECT OF SAME DAY SURGERY POLICY

AREAWIDE ELECTIVE ADMISSIONS WITH SAME DAY SURGERY PROCEDURES

	# Cases	# Admission Denials
January - March 1982	3281	1
April - June 1982	3038	2
*July - September 1982	2527	24
October - December 1982	1835	24
January - March 1983	1762	27
April - June 1983	1672	19

*Policy Implemented July 1, 1982

PROSPECTIVE PAYMENT UTILIZATION REVIEW
A PSRO EXECUTIVE DIRECTOR'S VIEW

B. Marc Allen, J.D., Metropolitan Peer Review

Just as hospitals must recognize the differing incentives created by a Prospective Payment system and modify their systems and objectives, so must agencies that deal with hospitals. The New Jersey PSROs, aka UROs, had to learn new jargon, develop different expertise and resources, and implement dramatic revisions to the programs that had been in effect for six or seven years.

Chapter 83 of New Jersey's statutes requires utilization review on all hospital inpatients. Those reviews:

- Shall certify the medical necessity of each admission.
- Shall certify the appropriateness of level of care.
- Shall provide an appeals mechanism.
- Shall audit a sample of cases to assure proper DRG assignment.

The New Jersey Department of Health took the position that because utilization review and utilization review requirements were somewhat different than the requirements of the federal government, vis-a-vis Medicare, a new certification process was required in order to assure that organizations wishing to perform these activities were capable of doing so. In other words, just because an organization was a PSRO did not make it a URO under the New Jersey system. An elaborate certification process was developed requiring the submission of detailed plans and budgets to the Department of Health and the negotiation of a budget for a utilization review rate with the New Jersey Hospital Rate Setting Commission were implemented.

The thrust of utilization review under DRG-based Prospective Payment is something quite different than the traditional length-of-stay review we have all become comfortable with over the last decade. It is obvious that length of stay, as the focus of intense utilization review, is improper. Length of stay, in the jargon of Prospective Payment econometricians, corrects itself; that is to say, length of stay will not be a problem when all the hospital receives is a price per case. Now, those who are expert in monitoring utilization review know that length of stay is the one area where impact is most often achieved. Almost any system of ongoing length-of-stay review has been able to demonstrate reductions in unnecessary lengths of stay with, almost, tedious regularity. It is in the review of admissions that utilization review has failed; and it is this area precisely which requires the most attention under DRG Prospective Payment. Medical staffs in hospitals almost never voluntarily implement pre-admission review, a device designed to keep unnecessary or questionable admissions out of the hospital. Anyone scheduled to come into the hospital, came in. Once the first review occurred, if a denial was issued, it was not an admission denial; it was a continued stay denial - whether or not the reason for the denial was the fact that the admission was unnecessary. Only in few instances have PSROs implemented pre-admission review, or, for that matter, non-delegated admission review, with the effect being that any substantial numbers of unnecessary admissions were identified. It is this type of case that needs to be kept from the hospital.

The review of ancillary services, that is, non-hotel-type charges, on the hospital bill is more important than ever; but from a new perspective. Will hospitals need to restrict or ration services in order to balance the books? Will hospital comptrollers cajole physicians into ordering fewer ancillary services than they would have ordered in a fee-for-service environment? Will the Medicare population suffer from an under-distribution of necessary hospital ancillaries because of the fixed-price situation? Peer-review groups should take a renewed interest in such quality-assurance activities, because it appears for the first time that true quality assurance can go on.

The analysis of hospital data, most particularly coupled with revenue code or cost center information, becomes an estimable tool for PSROs in New Jersey for the analysis of hospital utilization to determine where hospitals are experiencing difficulties in making a DRG margin. Data by DRG, and by resource consumption will be necessary and is generally available for hospitals and UROs in order to pinpoint problem areas and make management decisions about the financing of hospital care.

DRG validation, a new process, a new software system and the basis upon which a new industry has been created, is of paramount importance. New Jersey PSROs are charged with the responsibility of validating the DRG assignments made by hospitals. We review to assure the accuracy of diagnostic and procedural coding, and the abstraction of the record as it relates to DRG assignment. All cases evaluated by the PSRO whether in non-delegated review or within the monitoring of delegated review, as well as appeals and reconsiderations, are subject to the DRG validation process. This process goes beyond the visual check of the codes and the resultant DRG assignment but includes a most vital component of the re-review of the chart by Registered Records Administrators or Accredited Record Technicians and physicians, as necessary to assure clinical accuracy. This is a function that is not delegatable under the Federal PPS, just as it is not delegated in New Jersey.

The New Jersey system allows for a unique series of appeals concerning cases in dispute. The first is the patient's appeal, based upon the equity of the difference between the controlled charges shown on the hospital bill and the DRG price per case. Patients with no, or minimal, health insurance often find themselves socked with a large liability when they thought the charges would be substantially less. It is the PSRO's responsibility to hear such appeals and to adjudicate the equity of the differing prices. Payors are allowed to question the DRG assignment and seek redress from the hospital billing in that regard. In addition, there continue to be reconsiderations on the issue of medical necessity on all cases in which a termination of benefits was issued.

We welcome the opportunity to hold these patient appeals, in particular, because it gives us a direct channel to the public, one which never existed under the PSRO program. The session enables us to communicate directly with the public about peer review, utilization review, cost containment and the other important issues the public needs to be made aware of.

It has not been easy for New Jersey hospitals or New Jersey PSROs to make the necessary modifications to accommodate this new system, but it has been accomplished. A great deal of pro-active as well as reactive activity has occurred. Much of the thinking that went into the development of the PRO Program under the Federal Prospective Payment system had its genesis in the New Jersey DRG/Utilization Review system. We are pleased to have had the opportunity to participate in this regard.

THE IMPACT OF MEDICARE'S PROSPECTIVE PAYMENT SYSTEM ON STATE MEDICAID AGENCIES

Thomas M. Russo, New Jersey Department of Human Services

Introduction

This paper represents a brief introduction to the issues and concerns which state Medicaid agencies should be aware of in their evaluation of the Health Care Financing Administration's recently implemented "Medicare Diagnosis Related Groups (DRG)" prospective reimbursement system for Medicare hospital inpatient services.

The major assumption of this presentation is that state Medicaid agencies may consider modifying their existing reimbursement methodologies as a single payor reacting to the Medicare DRG program. The items discussed will not relate to states which may be considering all payor systems, such as New Jersey's DRG demonstration. The considerations given to establishing an all payor DRG system within a state are substantially different from those which must be addressed when Medicaid, as an individual payor, reacts to the Medicare changes.

DRG's are expected to have a major impact on Medicaid state agencies because many states have relied on Medicare principles for hospital reimbursement. Under the Medicare DRG program, hospitals are no longer required to report detailed cost information for Medicare payment. However, Medicare hospital cost data is the basis for most Medicaid hospital rates and, without reliable cost data, states may be forced to develop new payment systems.

However, state Medicaid agencies have a number of reimbursement options for acute care hospitals when DRG reimbursement for Medicare services are implemented.

State Medicaid agency options

The following options represent some basic approaches that could be considered:

- The state Medicaid agency could adopt the national Medicare DRG methodology. By adopting this methodology, Medicaid programs would have the ability to avoid some of the cost shifting that will occur under the new principles of reimbursement. Other Medicare principles of reimbursement enacted through Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) legislation, such as the reduction in physician reimbursement if a physician is hospital based, could also work to a state's advantage in the Medicaid program.

- The state Medicaid agency could initiate a California type system and begin to negotiate with hospitals for a prime rate. In doing so, Medicaid would only contract with a selective number of hospitals, guaranteeing them an appropriate volume of Medicaid recipients and, having guaranteed the volume, in return would receive a preferred rate. Initial indications are that the bidding methodology for hospital rates under this system may be quite appropriate, although not without problems.

- The state Medicaid agency, as an alternative to developing a reimbursement system, could modify recipient benefits in the area of inpatient hospitalization, following the example of some states where a maximum number of days are allowable for reimbursement during any one particular hospital confinement or for an entire calendar year. This type of modification in benefits would not require the establishment of an elaborate reimbursement system.

However, when coupled with the Medicare principles of reimbursement, a substantial savings for inpatient hospitalization expenditures could occur. In combination with the above, a state agency may simply establish a percent increase ceiling based on some inflation factor beyond which increases in hospital rates would not be permitted for Medicaid liability.

Most appropriate option

The first option would seem to be the most appropriate over a period of time. However, before proceeding, there are many major factors that must be considered. There must be sufficient political support for implementing such a system. Sufficient time must be given to properly evaluate the various components of developing the DRG reimbursement system and educating hospitals, physicians and recipients on the new concept of prospective reimbursement.

Administrative concerns

In evaluating the impact of the Medicare DRG program in a state, the following major administrative concerns must be addressed:

- Physician Direct Patient Care Costs.

- Rebundling of Part B Services to the Inpatient Component.

- Availability of Cost Report Information.

- Hospital Grouping.

- Claims Processing.

- Medicaid Management Information Systems.

- Patient Transfers.

- Existing Benefits.

- Change in Provider Ownership and Restructuring.

- Hospital Phase-In.

Let us look at each of these areas needing major administrative evaluation in more detail.

Physician direct patient care costs

The Medicare regulations provide that direct physician patient care cannot be billed through the inpatient Part A rate. The impact of this provision is directly related to the existing physician fee schedule for Medicaid participating physicians. If the existing fee schedule is compatible with usual and customary charges, then there is a significant probability that the direct patient care costs for physicians will increase substantially above existing expenditures where the physicians service is provided under contractual arrangements with hospitals. If the physician fee schedule is substantially lower than usual and customary charges, potential inequities could result for the physician and the hospital. This is especially true for physicians who do not have an outside practice and treat a large number of Medicaid indigent patients.

Pediatric clinics and pre-natal services are primary examples of full time hospital-based physicians who spend the majority of time treating patients directly. The physician's billable charges would be limited to Medicaid screens which are less than the reasonable compensation a pediatrician could earn outside of a hospital. As such, physicians may be reluctant to continue the services and hospitals, finding it difficult to staff the clinics, might be forced to reduce services and thus impact adversely on the availability of care for Medicaid recipients.

Another factor to be considered is the contractual arrangement between a physician and a hospital. Although Medicare may choose to reduce or to redirect the billing methodology to Part B, any reduction of revenue to the hospital through physician reassignment of claims would prevent the hospital from fulfilling its contractual obligation with the physician.

An additional concern is the addition of certain procedure codes to the physicians manual for services normally not performed on an out-of-hospital basis, such as blood gas analysis. This essentially is now a direct patient care service and should not be included in the Part A portion of the billing. That specialty physician would be required to bill as a Part B outpatient component.

Rebundling of part B services to the inpatient component

This portion of the regulation has some significant implications for state Medicaid agencies. The vast majority of services provided under contract through a hospital to an inpatient, such as independent laboratory services, diagnostic and therapeutic services, diagnostic radiology and pathology services, prosthetic devices, physical therapy and speech language pathology are reimbursed on the basis of a Medicaid fee schedule.

Since these services may now be billed to the hospital and incorporated in the hospital rate structure, there is a significant loss of control regarding the price structure for these services. As such, the level of reimbursement on the inpatient side may increase significantly to the Medicaid programs.

In addition, since these services may be all inclusive in the hospital rate structure, many non-covered services could be passed on to the Medicaid agency without its awareness. Such services could include, for example, ambulances and lens implants. Also, there are no pricing controls on such contractual items as pacemakers and artificial limbs.

Availability of cost report information

Although the standard Medicare cost report will be available for at least one additional year after DRG implementation, there is relative uncertainty as to how long hospitals will be required to continue this reporting mechanism. Individual states may elect to have the hospitals continue to prepare Medicare cost report information in order to construct their cost based retrospective reimbursement rates.

However, the additional expense of maintaining these cost reports may be passed on to the state Medicaid agency. Irrespective of whether or not a state agency considers modifying or retaining the existing reimbursement system, immediate consideration must be given to the future source of data in order to maintain reimbursement integrity.

Hospital grouping

The identification of urban and rural hospitals and the exception of sole community providers may not be a sufficient means of grouping hospitals within a state to develop an equitable Medicaid reimbursement system. The grouping of hospitals within the state must consider several factors unique to their demographic environment.

In averaging costs between a large teaching hospital and a small acute care hospital, the acute care hospital would probably have a significant increase in revenue while the teaching hospital would not recover sufficient funds to maintain a fluid operation. Were this to occur, an additional cost shifting would develop to other payors in the system. These inequities would still occur even though certain teaching costs are considered as a pass-through item. The overall complexity of maintaining a large teaching hospital is obviously more costly than that of a smaller acute care hospital.

Several other variables should be considered when evaluating the grouping process. As a minimum, the following are suggested: teaching status, volume of medical assistance patients, charity and bad debt volume, location, capital expenditures, and whether or not a particular hospital provides services to a disproportionate number of poor and medically needy persons.

Claims processing

Major changes should be recognized with respect to the claims processing system. Since DRG reimbursement becomes the driving force for payment at a fixed prospective rate, those situations where states still function under a per diem reimbursement methodology present particular problems in prorating crossover claims, identifying liability for co-payment and deductibles and establishing benefit limitations. This becomes a particular factor where states may not yet be reimbursing for Skilled Nursing Facility (SNF) and Intermediate Care Facility (ICF) care rendered in acute hospital beds.

The Medicare DRG methodology requires that these days be identified on the bill as acute days. Thus, if a Medicare patient has an extended day involving SNF and ICF care due to the unavailability of a long term care bed, the Medicaid claims processing system may pick up those days as co-pay days and spin off a co-pay payment for the acute hospital day. This would not be an appropriate payment if the particular benefit structure of the state Medicaid agency does not require reimbursement for SNF and ICF care in a hospital situation.

Medicaid management information system (MMIS)

A further consideration is the impact on the MMIS which has a substantial number of edits on length of stay, ancillary charges, etc., and are not keyed to the logic of a DRG reimbursement system. Substantial systems and data processing modifications will be necessary in order to track and properly identify aberrant situations given the new reimbursement techniques available and the systems gaming potential.

Patient transfers

This again is an administrative decision for determining what Medicaid liability exists when a Medicare/Medicaid patient is in this situation. The ability to track patients between hospitals and to compare and adjudicate claims simultaneously to ensure that duplicate payment does not occur is extremely important. It is also imperative that common definitions be utilized as to what constitutes a patient transfer versus a discharge and admission to another provider where there is a lapse of more than 24 hours.

Existing benefits

As previously noted, some of the concerns regarding the Medicare DRG reimbursement system are the inclusion of items or services which may not have been included within the benefit structure of a Medicaid program. An obvious example is where a maximum allowance for inpatient days during a given spell of illness or a given year exists. Should a state agency have any liability for a Medicare/Medicaid recipient who exhausts the benefits within DRG trim points, but in excess of the allowable number of inpatient days for a particular confinement? The proration of the DRG amount beyond those days could potentially be billed to a Medicaid recipient which is not appropriate.

Change in ownership and restructuring

Given the New Jersey and Maryland DRG experience, it becomes obvious that there are definite advantages for hospitals to restructure, combine corporately and unbundle or rebundle certain activities. Determinations must be made prior to the implementation of a Medicaid DRG methodology as to how these situations will be handled. In many cases, the combining of hospitals' services has a special advantage in developing cost reports and sharing efficiencies and inefficiencies, especially when a major hospital combines with a smaller entity.

While we would encourage restructuring for efficiency and service effectiveness, we would suggest that decisions be made early regarding cost reporting, billing, capital expenditures, etc., and that these be handled in a uniform fashion when the restructuring techniques are utilized. For example, should all corporate related facilities be treated as a single provider or should each geographic location of a major corporate entity be allowed to participate as a separate provider?

Hospital phase-in

The need for sufficient lead time must consider the phase-in schedule for the majority of hospitals within the state for implementing the Medicare DRG methodology. The phase-in of hospitals would depend on their fiscal year end dates. The first year of the Medicare system may not have a dramatic impact on the state Medicaid agency, considering the blending of rates, unless the majority of hospitals in the state utilize an October 1, 1983 fiscal year. If the majority of hospitals utilize an October 1, 1983 fiscal year, then some immediate action should be considered to cap Medicaid liability for an interim period of time until various strategies can be developed and evaluated.

Summary

Over the past several years there has been considerable debate over the issues of cost shifting. It is alleged that "cost based" payors, such as Medicare and Medicaid, do not reimburse hospitals for the full cost of the services provided their patients. To recoup these loses, it is alleged that hospitals shift the cost to "charge based" payors who thus pick up a disproportionately large amount of the hospitals financial requirements.

With the Section 223 limits and their expansion under TEFRA, coupled with the elimination of the nursing service differential, Medicare and Medicaid payments in hospitals are being further curtailed, thus increasing the effects of cost shifting. States which adopted Medicare principles for hospital reimbursement had little or no disadvantage because of the Medicare cost shifting debate. However, with the Social Security Act amendments of 1983, that picture changed dramatically. Under DRG reimbursement, Medicare will pay a Medicare defined flat rate per discharge regardless of what it costs to treat the patient.

Hospitals will now have an even greater incentive to shift costs away from Medicare patients to the patients of other third party payors, including Medicaid. Thus, with the advent of the Medicare DRG reimbursement system, Medicaid programs are potentially a victim of significantly increased cost shifting behavior.

As noted, one way to circumvent this effect is for a state Medicaid program to adopt a DRG based prospective payment system. Thus, rather than becoming a victim of Medicare reimbursement policies, states could play the same game, but in doing so could run the risk of losing flexibility in the administration of their Medicaid hospital program.

More importantly, however, and one of the major reasons why Medicare adopted the DRG system, is that a DRG based prospective payment system promotes the effective and efficient delivery of inpatient hospital services. It provides significant incentives to hospitals to control costs for maximum effective reimbursement. It also enables government, as much as possible, to phase out of the business of regulating hospital behavior.

Given the many considerations presented in this paper, state Medicaid agencies face a formidable challenge in determining the methodology to be used for reimbursing hospitals in the future. It is a challenge that I do not envy.

ISSUES AND OPTIONS FOR MEDICAID HOSPITAL REIMBURSEMENT AS A RESULT OF THE MEDICARE DRG SYSTEM

Anthony C. Lovecchio, Health Care Financing Administration

Introduction

Good Afternoon.

I am pleased to be here to discuss the Medicare Prospective Payment System based on DRG's and the implications for Medicaid.

I am with the Division of Alternative Reimbursement Systems in HCFA's Office of Reimbursment Policy. One of our primary functions is the development and interpretation of Federal policy concerning hospital reimbursement under Medicaid.

It is interesting to note that for the first 15 years of the Medicare and Medicaid programs, the hospital reimbursement system for Medicaid was the Medicare system. However, the 1981 Omnibus Budget Reconciliation Act provided the States with an almost irressitible opportunity to design and implement hospital reimbursement systems which are both innovative and marked alternatives to the Medicare system. Much of our efforts over the past 2 years have been directed to the States' development of such systems. Now, as a result, of the landmark Medicare Prospective Payment Legislation, we are engaged in efforts to work with the States to assist them in deciding whether they will develop hospital reimbursement systems which would dovetail with the Medicare system.

I am here today to identify and discuss some of the options and issues for Medicaid. However, before getting into some of the specifics, I would like to summarize for you the basic Federal requirements concerning Medicaid hospital reimbursement. In so doing, I hope to establish a baseline perspective of the various options available to the States.

Background

The current Medicaid statute governing hospital reimbursement was enacted in August 1981 as section 2173 of the Omnibus Reconciliation act. The legislative history indicates a strong congressional intent that States be provided greater flexibility in developing alternative methods of hospital reimbursement and encourages States to move away from the inherently inflationary system of cost based reimbursement that was utilized for Medicare. The fundamental requirements are:

I. The State pay hospitals through the use of rates that the State finds and makes assurances to HCFA, are reasonable and adequate to meet the costs which must be incurred by efficiently and economically operated facilities in order to provide care in conformity with Federal and State laws, regulations, and quality and safety standards.

II. The methods and standards for establishing hospital payment rates must take into account the situation of those hospitals which serve disproportionate numbers of Medicaid and low income patients with special needs.

III. The hospital payment methods and standards must provide for payments for inappropriate level of care days at lower rates to reflect the level of care received and found to be medically necessary.

IV. The payment rates must be adequate to assure reasonable access to inpatient services of adequate quality.

V. The State reimbursement systems must provide for uniform cost reporting and periodic audits.

VI The Medicaid payments must not exceed in the aggregate what would have been paid under the Medicare principles of reimbursement.

Up to now, about 25 States have taken advantage of the increased flexibility and have developed what we characterize as alternative systems. These systems are generally prospective and employ the Medicare cost finding principles and cost reporting system. They utilize controls on rates of increase and, in many cases, peer groupings.

The remaining 25 States are still following the Medicare system of retrospective reasonable cost reimbursement.

Because of the implementation of the Medicare DRG system and because of the historical link between the two programs, States are now faced with a series of questions and decisions.

The questions are: Should they continue "business and usual?" Should they develop an alternative hospital reimbursement system? Should they develop a DRG system? If they develop a DRG system, would the system be identical or similar to Medicare's?

Although "business as usual" is an option, if this option is chosen, States should recognize that a reasonable cost or cost based system embodies a strong potential for hosptials to cost shift to Medicaid. It also requires a system of detailed cost finding and cost reporting and auditing. As you may know, the Medicare program will continue a cost reporting system, but the detailed cost reporting system will probably be only continued for another year or so. Subsequent to which a more simplified system will be utilized. This means that States who continue cost based reimbursement will need to develop and maintain a separate system of cost reporting.

At a recent Medicaid management information systems conference, a State Medicaid director considered the options and concluded that States had few options. He believes it is imperative that States move to a prospective system of hospital reimbursment and that such systems should be based on DRG's.

The Medicare System

With that as background, I would now like to focus on some of the issues and policy options where States are considering a Prospective Payment System based on DRG's.

Because of the historical link between the Medicare and Medicaid hospital reimbursement methods, I believe it appropriate to compare vairous aspects of the Medicare system as a means of discussing what a State may choose as options for the State program.

As you know, Medicare is no longer going to pay hospitals on a straight cost basis. Instead, hospital payment rates will be determined prospectively on a per case basis. In general, the Medicare system will:

Pay hospitals according to a patient's DRG classification

Each DRG is based on diagnosis, treatment procedures, age, sex, and discharge status

Payments are based on the allowable operating cost per discharge

The per discharge costs will be standardized by excluding capital and education costs and by adjusting for case mix variations.

Urban and rural averages will be computed for the nation and each of the nine census regions

Outlier payments will be deducted from the standardized amounts and added later on a per hospital basis.

Excluded from the DRG payment system are:

Psychiatric and Long-Term Care hospitals with over 25-day average lengths of stay.

Children's hospitals

Rehabilitation hospitals

Hospitals outside the 50 States and the District of Columbia

Special payment provisions are provided for:

Sole community hospitals

Christian science sanitoria

Hospitals and referral centers for Cancer research

Higher cost hospitals in Hawaii and Alaska

The DRG payments will be phased in over a 3-year period:

	HOSPITAL SPECIFIC	FEDERAL	(REGIONAL)	(NATIONAL)
FY 84	75%	25%	(100%)	
FY 85	50%	50%	(75%)	(25%)
FY 86	25%	75%	(50%)	(50%)

Medicaid

In view of the flexibility available to them, States are in a favorable position to evaluate the features of the Medicare system and determine whether they should adopt each and every aspect of the Medicare System or if State specific variations and substitutions are more advisable.

For Example:

The Phase-in

A State need not follow the Medicare 3 year phase-in process of blended payment rates. Instead of blending the payment rates on a hospital-specific and statewide payment rate basis, a State could utilize a statewide payment rate for each DRG based on the statewide average cost per discharge. The statewide average could be indexed to reflect regional differences and urban and rural wage levels.

If a graduated phase-in is determined appropriate, a State could use a 50-50 blend of hospital specific and statewide rates for the first year of implementation.

Excluded Hospitals

Instead of excluding the Long-Term Care, Rehabilitation, Children's, and Psychiatric hospitals and reimbursing them on a reasonable cost basis, a State could develop a system of peer grouping for such hospitals and pay for their services at the group average plus a fixed rate of increase or a market basket index such as the Medicare market basket. The unit of payment could be on a per discharge, per diem, or per admission basis. The payment could be a composite of operating costs based on the average for each group and the capital and education components could be fixed on a hospital specific basis.

Capital Costs Reimbursement

The Medicare DRG system will reimburse for capital cost items such as depreciation, interest, return on equity, etc. on a pass through basis. Congress recognized the reimbursement of capital as a thorny issue and provided for Medicare reimbursement on this basis pending further study and recommendations as to how it should be treated under a prospective payment system.

However, a State may consider Medicaid alternatives now. For example, instead of a pass through item, a State may opt to fix capital cost at a base year level and reimburse on that component. They could stipulate that exceptions would be granted for additional costs associated with certificate of need or other approved expansion. A State could develop a system of reimbursing "old capital" and "new capital" on different bases.

Moreover, a State need not follow Medicare in its method of reimbursement for return on equity. A State may employ a different rate of return or none at all. There is an argument to be made in favor of not paying return on equity when a system, such as a DRG system, has built in incentives for realizing a margin of profit for efficiency and economy.

Outliers and Administratively Necessary Days

The Medicare system mandates additional payments for those cases with extremely long lengths of hospital stay or cases with extraordinary high costs. The law establishes both upper and lower limits on the amounts which must be paid for outliers. The outlier payment is carved out of the base of the DRG payments. Outlier payments are made after a case crosses the length of stay or expenditure threshold.

In developing an outlier policy, a State should consider its policy options in terms of the specific State benefit package. Some States allow as few as 12 days of hospitalization per year or per spell of illness. Thus, a State's average length of stay plus a standard deviation may be an appropriate threshold. However, the outside limit on payments should equal the maximum number of days the State program allows. The high cost outlier could be treated in a similar fashion. In any event, the limitation should reflect the maximum the State would be expected to pay for hospital services. This is the concept of budget neutrality which States should consider.

Inappropriate Level of Care Days

As indicated earlier, the Medicaid law requires that a State pay for administratively necessary days in a manner consistent with the Medicare law. Our Medicaid policy has been that where a patient needs skilled nursing facility (SNF) level of care but remains in the hospital, payment should be at the statewide average SNF rate under Medicaid. We also require a similar application for the intermediate care facility (ICF) level of care.

As a result of the Medicare prospective payment system, the Medicare program has decided that the Medicare payment policy will be that such days are paid through the outliers provision once the threshold is crossed.

A State could follow this lead, or it could employ a variation by establishing a threshold based on averages per DRG and then pay at the statewide SNF or ICF rate.

Relative Value Weights

As a final item, I would like to mention the Medicare relative value weights (RVW). As you are aware, a RVW has been established for each DRG. This weighting factor is utilized in determing the payments per DRG. The RVW is multiplied by the average cost per discharge in order to arrive at the final DRG payment rate. The weights are intended to reflect the hospital resource consumption associated with each DRG. The weights reflect the average costs across all hospitals of treating cases classified in each DRG relative to all other DRG's. I am not going to discuss the details of the process because several of my co-panelists are expert in this area and will discuss this subject. However, I would like to mention that a State should analyze these relative value weights to determine if, in fact, the Medicare weights are apropriate for their Medicaid program. The RVW's were established on the basis of Medicare patient records, Medicare cost reports and non Medicare discharge records in Maryland and Michigan hospitals. In general, it is safe to say that these weights reflect hospital resource consumption in the treatment of Medicare patients.

As an alternative to setting payments in accordance with the established Medicare weights, a State could identify a constant relationship between the costs of each program and determine the Medicaid payments accordingly.

Conclusion

I realize that we at the Federal level have not provided States with firm direction regarding DRG's and Medicaid hospital reimbursement. However, we believe that the composition and design of State hospital reimbursement systems are best determined by the States.

We at HCFA are available to provide advice and suggestions and to share with the States our experiences and other background materials compiled during the policy deliberations for the Medicare system.

DATA ISSUES IN THE MEDICARE PROSPECTIVE PAYMENT SYSTEM

Rose Connerton Health Care Financing Administration

Many of the fundamental concerns in setting-up the Prospective Payment System (PPS) revolved around data needs Although the Congress made some significant modifications to the Secretary's Prospective Payment Proposal, the basic framework and underlying data needs remained unchanged. To define those data needs, we addressed three major issues.

1. What data are needed to build the system?
2. What data are needed to implement the system?
3. What data are needed to monitor and evaluate the system?

I'd like to discuss the first of these issues. giving you a brief overview of the data we used and some of the problems we encountered because of limitations in that data.

The decision to pay hospital costs prospectively led to the question of what we will pay for and how much we will pay for it--in other words, how should we define the unit of measurement and the level of payments? We looked into a number of options; (a) per day, (b) per service, (c) per case, (d) per capita and finally decided to pay by case using the classification scheme called Diagnosis Related Groups (DRGs) developed by the Yale University under a HCFA grant.

We had already granted a Medicare waiver to the State of New Jersey where they instituted an all payor prospective payment system using DRGs, and we had also used DRGs to measure case mix complexity under the total cost limits mandated by the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982.

From a data perspective, one of the main advantages of the DRG system is that the necessary data elements are contained in the Uniform Hospital Discharge Data Set (UHDDS) used by most hospitals. The DRG grouping software uses the following elements:

(a) ICD-9 principal diagnosis code
(b) ICD-9 surgical procedure codes
(c) ICD-9 secondary diagnoses codes
(d) age
(e) discharge status
(f) sex

Although these data elements are widely available they were the source of our first major problem While HCFA maintains a PSRO file which contains the UHDDS elements, this file doesn't contain any charge/cost/reimbursement information or provider identifiers. On the other hand, the Medicare Provider Analysis and Review (MEDPAR) file contains only one principal diagnosis code, one surgical procedure code and a secondary diagnosis indicator. It does not contain the actual secondary diagnosis codes. In addition, the discharge status shows only live or dead rather than the full range of options. It does, however, contain unique Medicare provider numbers and specific ancillary charge information from Medicare bills.

By combining a few DRG categories and slightly modifying others, Yale created a MEDPAR version of the DRG grouper. This enabled us to group the 2 million 1981 MEDPAR records. Once the records were grouped we faced another problem--the MEDPAR file contained charges--not costs.

To resolve this problem we estimated operating costs for each sample discharge by matching our Medicare cost reports to our MEDPAR files using the following data items:

Hospital Cost Reports	MEDPAR
Provider No.	Provider No.
Routine per diem	Routine days
Special care per diem	Spec care days
Lab cost/charge ratio	Lab charge
OR cost/charge ratio	OR charges
Pharm cost/charge ratio	Pharm. charges
Radiology cost/ charge ratio	Rad. charges
Medical supplies cost/charge ratio	Med. supp.charges
Anesethesia cost/ charge ratio	Anesethesia charges
Other cost/charge ratio	All other charges
Fiscal Year End dates	DRG data elements
Intern-residents	Covered days
Bed size	

We then standarized the estimated costs for teaching and wages. For the wage adjustments we used our third major data source--the wage index compiled by the Bureau of Labor Statistics from their hospital industry employment survey data We used the Office of Managment and Budget (OMB) Metropolitan Statistical Area (MSA) definitions announced on June 30, 1983.

At this point we faced our most serious data problems--what to do about the low volume, empty and combined DRGs. We realized that we had to create a price level for every DRG even if that DRG would rarely, if ever, be found in the Medicare population. Because of the very short time frame we were not able to find a lot of suitable data. We did obtain data from Hawaii, Maryland, Michigan, and New Jersey and decided to use both Maryland and Michigan data. (Hawaii had too few DRGs represented and the New Jersey data was for 1979 not 1981).

We processed the Maryland and Michigan data by the same methodology we used with our MEDPAR data except that we used the full grouping algorithm. For each data set we computed the mean cost per DRG as well an overall hospital weighted mean cost per case and a DRG weighted mean cost per case. We then converted these data to relative weights by dividing the mean DRG cost by the DRG weighted mean cost within each data base. We computed a weighted average for the low volume and empty DRGs then merged them with the MEDPAR weights. The merged weights were then adjusted by the ratio of the DRG weighted cost per case to the hospital weighted cost per case. We also made an adjustment to the weights to remove kidney acquisition costs from DRG 302.

It was these relative weights that were used to create the case mix indexes and to model the outlier policy.

However, we still had to make adjustments for the combined categories. These categories, unlike the low volume and empty DRGs, normally would contain large numbers of cases, but they could not be differentiated in our MEDPAR data base because of its limitations. For instance, Medicare cases which would have been distributed between DRGs 104 and 105 were combined into DRG 105 because we had only one procedure code listed, i.e,.we could tell that a cardiac valve procedure with pump had been performed, but we could not tell whether or not a cardiac catheterization had been performed. For the combined DRGs we redistributed MEDPAR cases according to the proportions we found in the outside data.

The outlier criteria were handled in the same way.

The cost report, BLS wage data. case mix indexes and inflators were then used to create the regional standardized amounts. In our modeling we had looked at a wide range of options besides the urban/rural within census region. We also looked at standardized amounts for:

1. The Nation
2. National Urban/Rural
3. Seven Medicare Groups
4. Four Census Regions
5. State
6. MSA/Rural
7. MSA size

In summary, we used four major data sources:

1. The 1981 20% sample MEDPAR data derived from Medicare administration and billing records (HCFA-1453).

2. Hospital cost information abstracted from the Medicare Cost reports for fiscal periods ending in 1981.

3. Hospital industry (SIC 806) wage data collected by the Bureau of Labor Statistics in their ES202 survey.

4. Medical and charge data from the Maryland Cost Commission for all patients, and the state of Michigan for Medicaid patients.

THE IMPACT OF MEDICARE'S DRG PROSPECTIVE PAYMENT SYSTEM ON STATE MEDICAID PROGRAMS

Robert M. Clinkscale, La Jolla Management Corporation

The reality of Medicare's Prospective Payment System (PPS) has several important implications for State Medicaid agencies. The first is that this new system is case-rate based rather than the traditional cost-based per diem system. Reimbursement is prospectively determined. Given Medicare's method of DRG-based rate setting, hospitals have a clear incentive to shift costs away from Medicare inpatients to other cost-based payers, including Medicaid.

Although our data base shows that more than half of all Medicaid agencies have now moved to some form of prospective reimbursement, it must be kept in mind that these systems are still fundamentally cost-based. This possibility has prompted many State Medicaid agencies to contemplate a counter offensive. Many are considering converting to a DRG-like case rate system patterned after Medicare or, perhaps, the New Jersey system.

Despite the hype about the beauty of DRGs fostered by this conference, I feel compelled to highlight some of the complications that face a State Medicaid agency that is considering adopting the DRG case rate approach. It is easier said than done.

There are some very complicated technical and policy decisions that must be made before a DRG case-rate reimbursement system can become a practical reality. Many of these issues have been glossed over at this conference. I will take a few moments to outline some of these issues that Medicaid Directors must face as they study the pros and cons of the DRG approach.

1. Existing Medicaid Paid Claims Files Are Typically a Poor Data Base for DRG Assignment

Medicaid inpatient billing systems have historically been tied to length of stay (LOS) and ancillary service use, rather than age, sex, primary diagnoses and principal procedures. Hospital billing departments have been quite casual about using medical record data to accurately report this type of information on claims forms. The result is that Medicaid claims payment files, from which DRG assignment is made (through the Yale grouper program) can be a poor and misleading indicator of true hospital case mix. The grouper assumes accurate coding of primary and secondary diagnoses, accurate accounting of surgical and medical procedures, and accurate accounting of co-morbid and complicating conditions. For example, a patient is admitted for an asthma or diabetes problem, is treated, and discharged. These have legitimate ICDA-9-CM codes and usually get recorded on Medicaid claims forms as such. The DRG grouper program does not, however, recognize these conditions for DRG assignment. Asthma should have been coded to a respiratory complication as a primary diagnosis and asthma per se coded to a co-morbid condition. Likewise, diabetes should be coded to a circulatory or other organ disease for purposes of DRG assignment. Diabetes per se should have been coded as a co-morbid condition.

The truth is that Medicaid paid claims files, due to the casual way diagnoses and procedures are coded (if they are coded at all), may present misleading profiles of hospital case mix in the jargon of DRG assignment. This leads to a shaky basis for prospective rate setting. Furthermore, once hospitals understand the DRG assignment process for reimbursement purposes, case mix profiles may change substantially. The New Jersey experience has shown an upward variation in expenditures of as much as 34% before base rate stability and cost per case could be established. Thus, existing case mix profiles may not be reflective of the actual (or true) case mix experience for individual hospitals and for the State as a whole.

2. Use of Medicare Cost Reports for Purposes of Computing Relative Values and Costs per DRG

Most Medicare audited cost reports are several years old. Hospital cost patterns may have changed substantially since the last audited report. Use of unaudited reports has the advantage of currency and the potential disadvantage of being unaudited. A major step in setting DRG case rates is determination of true hospital costs attributable to Medicaid patients. After costs are estimated, they are compared to charges in order to compute a ratio of cost to charges. This ratio is then used to "adjust" Medicaid claims (charges) to actual costs for purposes of deriving a true cost per DRG. Faulty cost reports is, therefore, another source of misleading information.

3. Capital Reimbursement - Major Movable Equipment and Plant

This is one of the most controversial issues in DRG reimbursement. How should the financing of capital be included in DRG rate setting? Medicare has side-stepped the issue until 1986. Capital, interest and depreciation are currently a pass-through item. The replacement of major movable equipment will probably be allocated to the rate. Capital for expansion of plant and equipment is open for heavy debate. The essence of this issue is a decision as to the payer's role, if any, in influencing which hospitals will be allowed to expand and which will be left to philanthropy and other sources for expansion of service and bed size. Currently, this is a local certificate-of-need issue. Medicaid agencies, looking at DRG reimbursement methods, will run face-to-face with this both philosophical and political issue. State hospital associations will develop strong and valid arguments that capital costs cannot be dealt with indiscriminately - and out of the context of unique local inpatient service needs.

4. Psychiatric/Rehabilitation (Convalescent) Facilities

Medicare has taken the position that hospital-based and free-standing psychiatric and rehabilitation facilities are excluded from DRG reimbursement. This is fine for those facilities having separate Medicare or Medicaid provider numbers and clearly accounted costs. However, in the real world, many hospitals do not have separate accounting records and provider billing IDs. Unbundling these costs from hospital cost reports is an accounting nightmare.

5. Recognizing Area Differences in Prices and Wages

Any adjustment to DRG rates to account for regional or substate differences in prices and wages, demands a valid and equitable measure of adjustment. There is still considerable debate as to whether the hospital marketbasket index and local BLS wage index truly reflect differentials unique to the hospital industry. A Medicaid agency will find itself embroiled in this debate - with no clear consensus.

6. Utilization Review

Utilization review responsibility in a DRG environment becomes a critical link between medical necessity, quality of care, and appropriate billing. Inliers and outliers must be carefully studied for medical appropriateness and avoidance of DRG "gaming." Since the Medicare methodology permits the inclusion of SNF days in the determination of outlier status, it is essential that States modify their systems to be consistent with their benefit allowances and, as such, when cross-over claims are presented, the segregation of those SNF services needs to occur before Medicaid liability can be established. SNF and ICF days reimbursed at lower levels of care should be carved out of the DRG inpatient rate calculations. Hospital discharge and readmission behavior must be given special attention in a utilization review system since there are built-in incentives to "game" DRG trim points. Patient transfers to other hospitals will require special review since there is an incentive to "churn" patients from one facility to another to avoid excessive lengths of stay in any one hospital facility. Finally, and most obviously, Medicaid utilization review systems must re-orient their thinking toward detecting underutilization rather than overutilization of hospital services. Again, since hospitals would be paid on a case rate basis, there is an incentive to conserve rather than provide marginal services. This may or may not promote quality care.

7. Maternity and Newborn Child (Admissions)

A major DRG pricing problem for Medicaid involves maternity stays and newborns. Traditionally, the billing for a maternity stay involves the admission of the mother only - charges for care of the baby are lumped into the mother's bill. No claims are submitted for the normal newborn per se. Hence, in most Medicaid paid claims files the costs for the mother versus the baby cannot be distinguished. In a DRG system, the baby is a separate admission bearing its own DRG, depending on the health status of the child. For most Medicaid programs, the ability to set DRG rates that separate the mother and child does not exist. This will need to become the subject of a special cost study until an empirical basis for newborn pricing becomes available in a DRG system.

These are just a few of the complications that face State Medicaid agencies as they contemplate DRG inpatient reimbursement. Some others that time does not permit discussion of are:

- Malpractice vs. self-insured hospitals.
- Periodic interim payments.
- Integrating the UB-82 claims forms.
- Calculation of state-specific relative values (or by class of hospital).
- Recalibration of rates.
- DRGs with little or no history.

- Medicare upper limits for DRGs.
- Adjustments for high Medicaid volume hospitals.
- Trim point determinations and outlier payment policies.
- How to maintain budget neutrality.
- How to deal with provider reorganization and "unbundling" of services.
- Updating DRG rates based on inflation and trends in medical technology.
- Provider education and training.
- Crosswalk between ICDA-9-CM and CPT-4 codes.

All in all, DRG reimbursement may appear, on the surface, to be a clean and effective tool for containing inpatient costs. This may well be true, but only if a system is well thought out and is tailored to meet the unique needs of a State Medicaid agency. I estimate that it would take at least a year to properly plan for and implement a system in a State Medicaid environment.

IMPACT OF DRG'S ON TEACHING HOSPITALS

Thomas J. Foley, Overlook Hospital

Welcome to Symposia I during which we will discuss the impact of DRG's on teaching hospitals. My name is Thomas Foley and I am Chairman of the New Jersey Health Care Administration Board. I am also President and Chief Executive Officer of Overlook Hospital, a 550 bed hospital located in Summit, New Jersey. Overlook is a community teaching hospital which has a major affiliation with the Columbia College of Physicians and Surgeons.

The panelists for this symposia are Dr. Stanley Bergen, Mr. Donald Bradley and Mr. Bruce McFadden. Dr. Bergen is President of the University of Medicine and Dentistry of New Jersey. Mr. Bradley is President of Morristown Memorial Hospital, a 661 bed teaching hospital located in Morristown, New Jersey. Mr. McFadden is President of Middlesex General Hospital, the 416 bed teaching hospital for the Rutgers Medical School located in New Brunswick, New Jersey.

We will attempt to accomplish several things during this session. First, we would like to share with you what has been our experience in New Jersey as teaching hospitals living under a DRG system of reimbursement, and, then to the extent possible, we will attempt to relate our experience to the Medicare prospective payment system for those of you outside of New Jersey.

I will first review with you what I feel is pertinent background information to our topic. I will also briefly summarize the various definitions of teaching hospitals and those formulas used to estimate gradual education costs. As you may know, each state has a slightly different approach. A "teaching" hospital in New Jersey may not be a "teaching" hospital in New York or Iowa. And, the Medicare regulations propose yet a different means of addressing teaching costs.

We have decided to handle this panel somewhat differently from the others. After my introduction, Dr. Stanley Bergen will present a paper entitled "The Effect of DRG-Based Per Case Payment on Academic Medical Centers". When he has finished, the other two panelists, Mr. Bruce McFadden and Mr. Donald Bradley will react to his paper and will address what we feel are key issues for teaching hospitals facing the next decade.

I would like to start with some basic facts.

Teaching hospitals experience higher operating costs per case than non-teaching hospitals. Obviously, one must consider the direct costs, the salaries of the residents and the teaching faculty. The number of graduates of our nation's medical schools has doubled in a little over ten years. We have thus been required to absorb an increasing number of students into our graduate education programs.

However, teaching hospitals have been recognized as having higher operating costs aside from the direct costs of residents salaries. The DRG rates for teaching hospitals in New Jersey are consistently higher for major teaching hospitals as compared with non-teaching hospitals. In fact, in certain DRG's the costs in teaching hospitals are as much as 25 percent higher than those in non-teaching institutions. For example, the 1984 direct patient care rate for a myocardial infarction is $4,153 at one major teaching hospital, $3,484 at a minor teaching hospital and $3,341 at a non-teaching hospital in New Jersey.

One of the issues our panelists will touch upon is the reason for these cost variations. Is it the cost of teaching and research? Or, is it that the case-mix of teaching hospitals is more complex and the DRG classification system lacks the appropriate sensitivity. One might think so. On the other hand, one analysis performed in New Jersey found that the case-mix adjusted payment rate for some non-teaching hospitals was higher than that for some of the major teaching hospitals. This might lead one to question the previous hypothesis, or to question the validity of the peer groupings.

I would like to come back to the issue of what is a teaching hospital. Teaching hospitals have been defined differently for different purposes - whether it be accreditation or reimbursement. For the purpose of developing a starting point for our discussions today, I would like to review some of these definitions with you. In New Jersey, hospitals are classified into one of three groups - Major Teaching, Minor Teaching and Non-Teaching. Major Teaching Hospitals will have 4 or more approved residencies with a minimum of 35 residents. New Jersey regulations also address the required distribution of these residents among the various specialties. Minor Teaching Hospitals will have 2 or more approved residencies with a minimum of 15 residents. In Maryland, the university based teaching hospitals are distinguised from the affiliated non-university teaching hospitals. Blue Cross of New York has used an educational index point system in determining reimbursement rates. The index points take into consideration the number of residency programs, the number of residents and the impact of the type of residency on the cost per discharge. Medicare, on the other hand, recognizes a teaching hospital as one that has an approved residency program regardless of the number or type of programs.

Once the definition of a teaching hospital has been established, a methodology for including the direct and indirect costs of medical education is developed. Both in New Jersey and the Medicare system, the direct costs of medical education are a pass-through. However, the indirect costs are more difficult to quantify or even define. New Jersey does not attempt to define indirect costs. It recognizes the costs by setting three standards, one for each of the three peer groups. The Medicare model, on the other hand, incorporates an indirect cost adjustment based on the number of residents per bed. The result is additional reimbursement for teaching hospitals for both direct costs and associated operating costs.

For those of you not from New Jersey, you should be aware that New Jersey has discussed using a similar formula based on the number of residents per case to measure the "degree of teachingness" or teaching intensity. This and other changes in the methodology used in New Jersey have been proposed by the Department of Health but none have been adopted pending further study. Any proposed regulations in New Jersey are reviewed by the Health Care Administration Board whose responsibility it is to review and approve all health care regulation in the state. As Chairman of the HCAB in New Jersey, I believe that I can say that this is an issue with which we will all be wrestling over the next few years.

Before I introduce Dr. Bergen, I would like to raise some questions for our panelists to address in their remarks. I think we would all agree that teaching hospitals make a significant contribution to the advancement of medical care and are responsible for the supply of health care personnel in this country today. But we are all going to have to ask ourselves some hard questions in the next decade. For instance, can we afford to subsidize medical education? Should the patient pick up the education tab? How will the teaching hospital fare in the competitive world where consumers and industry will be shopping for health care services?

In the past, reimbursement regulations have been written in such a way as to promote public policy. Regulations have been designed to foster the development of primary care residency as opposed to esoteric specialty residencies. How will the PPS regulations affect the future of medical education in hospitals? Will prospective payment by DRG encourage or discourage the growth of teaching programs and should it?

Very little is known today about the dollar impact of the Medicare proposal. It has been said that, on the whole, it will not penalize teaching hospitals. Will this prove to be true? How will the Medicare formula treat university teaching hospitals as compared to community teaching hospitals?

Finally, there is one last question I would like the panelists to address. It is my experience as CEO of a teaching hospital that we devote considerable resources to other types of education. For example, we have an extensive medical library and active nursing, patient and community education programs. Will teaching hospitals be penalized for having such programs under the Medicare system?

IMPACT OF DRG'S ON TEACHING HOSPITALS

G. Bruce McFadden, Middlesex General - University Hospital

The academic medical center - a system of complexity which serves multiple interests, interests which are self-directed, and self controlled but at the same time are directly influenced by a series of other constituents and environmental conditions. While the community hospitals in this Country and in this State have been the backbone of health care services for the population, it is the academic medical center - the teaching hospitals which are the foundation of the health system of the Nation and of the State. It is the graduate medical education system in the teaching hospitals into which and through which some 21,000 medical school graduates from around the world per year enter the clinical system of medicine. Without this component of the education system it is likely that health care, health care delivery would be uniquely different than it is today.

As a title, Impact of DRG's on the academic medical center, it gives some speculation that this adjustment in the economics of the health care system may in some way negatively impact the health and well-being of the academic medical center.

How can we help but say that the DRG concept as it is being implemented indeed will not affect the medical centers and teaching hospitals. Dr. Bergen, in his presentation to you, has suggested or directly stated that DRG based per case payment will result in a far better managed hospital than before both in the academic medical center and elsewhere. While difficult to quantify, I suspect that it is not an improvement in management but it is a change in the economic incentives for institutions which will require an adjustment in the management of these institutions. Being quite realistic, we have had several decades of "the good time". These have included incentives only to spend and to capitalize and to borrow and to grow larger. Institutions have fed on this system, bureaucrats have fed on this system, and the political centers, in terms of government, have done, have made decisions which have been good for their constituents. Suddenly the realization is applied that we are spending ten percent of our gross national product. Suddenly there is realization that the Medicare, Social Security trust funds are in jeopardy. Suddenly there is a new found belief that the DRG payment system may be the relief, or solution to that area of the health care system which some do consider to be the major center of problem for the escalation in health care expenditures. Incidentally, you might also note that some noted New Jersey's economists tend to support the theory that with the general or expected growth of the gross national product between now and 1990, a rise to almost twenty percent by health care of that GNP total will still see real growth in the net balance of the GNP.

In any case, I would express grave concern that "tinkering" with the health care system via simply a modification of payment mechanisms may not only reduce health care dollars but, instead, may aggravate the structure of health care services including the systems of and for undergraduate and graduate medical education and in turn adversely affect the academic medical center far more significantly than any other institutional component of the system.

How can the teaching hospital, and the academic medical center be competitive? It has built-in costs both direct and indirect which are both subtlely and significantly different from the community service hospital organization. The advances in health care service, and in health care are a result of multiple interests, efforts, and scenarios taking place in the academic medical centers all of which or predominantly of which have been funded through the patient care system. Clinical research efforts, and severity of illness, to mention only two issues, remain as very unclear components of DRG's and the institution's position in the competitive marketplace. They reflect the ambiguity of medical education in the prospective payment system, and while one may say, "technically", these are simply indirect costs, I would suggest a complexity greater than is being acknowledged.

The work of Susan Horn and her associates at Johns Hopkins as noted by Dr. Bergen, in the areas of severity suggests that it is the academic medical center which will suffer. Dr. Bergen and I are in agreement that DRG's as we know them today may not be the ultimate structure although the concept of per case payment is sound. We are very much in our infancy in this restructuring and should expect considerable modification to evolve through what Dr. Bergen refers to as "We must work together . . .".

Is the financing of medical education "clinically" an appropriate element of patient care? The question may be better phrased as to, as public policy, how should clinical, or in fact all medical education be financed. The current direction of PPS based on DRG's will have an adverse impact as long as such issues as "severity", and "clinical research" remain ambiguous - unresolved, and as long as the academic medical center and teaching hospital with their different mission statements must function competitively as an extension of "finance".

Dr. Bergen's presentation is a very objective view from the perspective of academic medicine, and also from the position of the academic medical center. His citation in the three areas of (1) prospective payment, (2) DRG's and (3) per case payment is quite accurate. Middlesex was in the last group of hospitals to join in the New Jersey adventure. The DRG program was not the only event to take place in the life of the institution in 1982, but was simply one of several which dramatically impacted our lives. We are one of Dr. Bergen's identified examples.

For 1982, the Hospital came off a 65 million dollar expansion - taking up a 40 million dollar long term capital debt. It, as well, affirmed its affiliation agreement via the capital project, and affixed the full-time, geographic based faculty physicians at Middlesex. In addition the Hospital was on the "loss end" of an HMO services agreement due to the price differential with St. Peter's Medical Center.

Rate calibration and decision making for the bureaucrat is not a pure science and as such the appeal process for institutions is timely and what, I would term, costly. Costly is a reflection not of attorneys fees or staff cost, but of recovering revenue during the time frames in which they should have taken place and the resulting market price position in the competitive world. One consumer acted to exercise his choice - based on price. Such decisions can have devastating fall-out in the academic medical centers and teaching hospitals in terms of teaching program accreditation.

Dr. Bergen is quite correct; I am in agreement that the balance of power between medical schools and their hospitals will shift with the academic medical center gaining the upper hand. It is likely that the teaching hospitals with few graduate medical education programs will phase out as a result either of the dollar issues related to regulation and price or as a result of the stresses placed on the university and the academic medical centers.

Tom Foley has raised some very pointed questions:

Can we afford to subsidize medical education! Should the patient pick-up the tab! How will we (the teaching hospitals) fare in the consumer shopping market where price is the issue.

Difficult . . . difficult questions. In reality health care (hospitals) have had two (2) decades of subsidy . . . where we were told to buy and someone else paid the tab, so it may be an uncertainty as to whether we can have or afford subsidization. If, however, we have learned from our experiences, we know that total freedom does not exist and that regulation can, and should be expected.

I'm not in agreement with Dr. Bergen that medical education would spread throughout community hospitals. Should it happen, certainly we may look very much pre-Flexnerian - but more importantly we would become just that. My sense of disagreement relates to the standards which we have developed in our medical education systems at both the graduate and undergraduate levels. If anything I see our increasing firmness to maintain and improve these standards, not to reduce them. To change or alter such direction will be to modify some of the most cardinal principles of our educational systems in this Country.

Of greater importance is the question is there an alternative! My general view is to say that the "price based marketplace" is not compatible with medical education and that alternative methods to finance must be sought.

The attitude which emerged in Washington this Summer of eliminating medical education from Medicare reimbursement simply doesn't address the questions or issues. Whether it is the Colloton approach or another - it is time to examine, "realistically", alternatives to the current model. There are a number of vehicles available to look at alternatives, and Congress should certainly direct such examination but on a joint or independent basis with those most knowledgeable in education of medical disciplines.

Cost containment is of great importance to society. The reduction of dollar flow in our system appears the watchword. The intent and effort to be more efficient, to change management directions, to be increasingly cost effective are directions which we can and must support. At the same time, providers, payors, and regulators both bureaucratic and political must recognize and deal with the impact and the influences of these directional changes some of which cannot be addressed through system "tinkering", but must be managed deliberately based on policy direction if the quality of our health care system is to be maintained.

THE EFFECT OF DRG-BASED PER-CASE PAYMENTS ON ACADEMIC MEDICAL CENTERS

Stanley S. Bergen Jr., M.D.

New Jersey experience indicates that university hospitals have difficulty pursuing their special missions under DRG-based per-case payment. Thus, such systems place in jeopardy traditional funding mechanisms for medical education as a whole. Since medical education may have lost social luster because of current physician abundance, medical educators cannot expect automatic outside aid for their plight. They must themselves call attention to the expected results of the system as now fashioned and seek its modification.

Although often referred to as "prospective payment," DRG-based per-case payment does not automatically meet this definition. Prospective payment truly means payment in advance, as with health maintenance organizations. The DRG system has been called "prospective" because, theoretically, rates are set in advance of the period which they cover, and thus hospitals with stable case mixes and stable volume can budget prospectively. The above holds true, however, only if all payors are included in the system, as in New Jersey, and not as in the Federal system, which covers Medicare only.

The main danger with prospectivity of this kind affects all hospitals, although university hospitals, which must remain on the technological forefront, are affected most. Prospective rates must be reestablished regularly and frequently, from a zero base, if they are to retain effectiveness as a pricing mechanism. In this period of frequent revolution in medical technology and practice, a system memorializing today's practice standards to pay for health care years from now will be disastrous. New Jersey has had trouble with the comparatively-simple task of updating the rates. The Federal system proposes to recalibrate them every four years. This may not be feasible or often enough.

New Jersey's payment system differs from the Medicare mechanism in ways which favor university hospitals. First, the major goal of New Jersey's system was to assure the health of all efficient and effective hospitals; in contrast, Medicare's plan aims almost exclusively at cost containment. New Jersey's hospitals receive individualized rates which take into account, among things, the amount of uncompensated care each hospital delivers—traditionally a high amount for university hospitals, which are often located in inner cities; the Federal system contains no such provision. Staying out of the Federal system will mean multimillions of dollars a year to New Jersey's 100 acute-care hospitals, mostly in payment for uncompensated care. Finally, New Jersey's system provides for a much larger percentage of "outliers," or atypically-expensive cases which may be reimbursed outside the standard per-case rates; the Federal system will keep the level of outliers so low that it will not begin to cover university hospitals' atypical-patient expense.

Where New Jersey university hospitals have been financially successful in their first year or so under the State system, the reasons have been payment for uncompensated care and fortuitously high expenses, for various individual reasons, during the year on whose costs their hospital-specific rates were based. Thus, neither DRGs nor per-case payment has been responsible.

On the other hand, university hospitals' troubles under the system can be laid directly at the feet of DRG-based per-case payment. Although DRGs in theory account for severity of patient need, in use they produce heterogeneous groups which underpay for severely-needy patients and overpay for those relatively inexpensive to care for. University hospitals suffer.

In addition, because rates are based on historic costs—or the old way of doing things—they cripple institutions which lead in technology transfer. Research and development often involves costly trial-and-error, although it often leads to better efficiency as well as better care. Under cost-based reimbursement, patient-care revenues supported university hospitals' technology-transfer mission. Standard per-case rates do not.

Both New Jersey and Medicare attempt to cover teaching hospitals' special costs by simply boosting all their per-case rates. This may appear a boon, but arbitrarily-inflated rates are an albatross in a competitive market. Unless other support is found for their special missions, university hospitals will have to limit themselves to service which other institutions cannot or will not provide, forcing unconsidered change on medical education as a whole.

In order to protect the academic centers as a national resource and avoid doing inadvertent damage to American medical education, and also in the interests of simple equity, (1) a more accurate pricing measure than the current DRGs must be found, and (2) sources other than patient-care revenue must be devised to support academic hospitals' special missions. Whether future support is patient-care revenue or direct government appropriation, however, change for the academic medical center is unavoidable.

IMPACT OF DRGs ON INNER-CITY HOSPITALS

Harrold A. Murray, New Jersey Hospital Rate Setting Commission

I am pleased to be here today to moderate a discussion on the impact of DRGs on inner city hospitals. The individuals on this panel know all too well what this system has meant to their institutions and the people they serve in the community. For far too many years, inner city hospitals struggled to provide adequate health care services to a population that, by virture of its social and economic conditions, has perhaps greater medical needs than the overall population. Historically, inner city hospitals have not had the payer mix of patients that would provide for either an adequate level of reimbursement or a life-saving inflow of philanthropic contributions. As a result, it has for many institutions been a struggle: to maintain an obsolete plant, provide essential services with outdated equipment and, for some, to simply survive. Many inner city hospitals function as primary physicians and thus provide an essential service to an often underserved population. At the time the DRG system was implemented, some of these institutions were on the brink of financial failure. Many were in arrears, unable to take advantage of vendor discounts that routinely create economies at other institutions. Most were unable to upgrade their physical plants because of their financial instability and lack of support from the banking community.

Most of these unfortunate conditions have dramatically changed with the implementation of the DRG system. As many of you know, one of the key elements of this system has been the payment for uncompensated care as a financial element. For the first time in this state, the hospital reimbursement system has recognized a problem that has been in existence for decades - the need to reimburse hospitals for those patients who either do not or cannot pay their bills. The impact of the infusion of uncompensated care dollars into the system has been dramatic. Projections of uncompensated care for 1982 and 1983 based on 1981 actual uncompensated care deductions from gross revenue for New Jersey hospitals come to $195,058,000. This represents a significant amount of money which has greatly enhanced the ability of inner city hospitals to provide essential care.

The key benefit of this element of our program is that they will have access to reasonably-priced, high quality health care services that are provided in an efficient fashion. Regrettably, the needs of the individual consumer or the disenfranchised can sometimes be lost or misplaced when one is involved in a complex regulatory system that affects millions and millions of dollars. We should not forget for one minute that our policy level decisions affect people in our communities who deserve quality health care and often rely on the hospital as a primary source. The individuals on this panel this afternoon can certainly attest to what the payment of bad debts has meant to their individual hospitals and their community.

IMPACT OF DRGs ON INNER-CITY HOSPITALS

Kevin G. Halpern, Cooper Hospital/University Medical Center

I will start with a statement which may seem a contradiction in terms: I am not convinced that the inner-city hospitals are faced with unique problems under DRG. Our experiences reflect the challenge which faces all hospitals in this new era of prospective payment and of intensified competition. Perhaps however we face them in an extreme form.

Both DRG and competition increase the need for a hospital leadership to manage efficiently and to plan wisely. This need is at its most acute in the inner-city institutions for two reasons. First, we bear the larger part of the cost of delivering care to the medically indigent. Second, we tend to be more frequently committed to major teaching programs and therefore to have higher costs. In many cities, these costs are also inflated by higher wage rates and by the higher costs of construction and modernization on crowded city blocks. The challenge to management under DRG is more acute for inner-city hospitals but it is not uniquely different.

A poet once wrote:

"In the fell clutch of circumstance,
I have not winced nor cried aloud:
Under the bludgeonings of chance,
My head is bloody but unbowed."

The problems facing inner-city hospitals will not be resolved if we "wince and cry aloud." We must respond by managing well and managing differently.

Understanding the DRG Environment

In their best-selling book "In Search of Excellence," Peters and Waterman point out that successful companies are more realistic about their environment while the unsuccessful "cling to false assumptions for as long as a decade."

At Cooper, we decided, early in our preparation for DRG, to parallel our adjustment to its new financial and operational requirements with a total strategic review of the environment within which hospitals now operate. Only by managing both detail and strategy could we face the future with confidence.

I want to generalize, from our findings, a set of assumptions which apply to all inner-city hospitals. These are the new realisms within which adjustment to DRG should be set:

- Excess Beds
  There is now excess hospital capacity in many of America's urban areas. Nationally, hospitals are operating at about 74% occupancy. This means that on any day 320,000 hospital beds stand empty. The older cities have a large share of this unused capacity.

- Inadequate Occupancy
  Geography and seasonal fluctuations in demand make 100% occupancy unattainable but we can, as an industry, do better than 74%.

- Competition
  Demographic changes will not raise national occupancy. The aging of the population and the potential re-birth of some of our older cities will be offset by continuing reductions in length-of-stay, growth in outpatient care and in alternatives to hospitals.

- Continuing Technological Innovation
  Scaling down the size of each urban hospital to increase average occupancy is a false solution. Modern healthcare is living through a technological revolution which each year brings new techniques, new equipment and new pharmaceuticals to the market place. That process will not abate in our lifetimes because the basic scientific discoveries through which this revolution is fueled have decades of new applications ahead of them. Computerization, sub-atomic physics, laser physics, genetics, bio-chemistry, solid-state electronics are still infant technologies. A healthcare delivery system in which each hospital has scaled down to achieve higher occupancy can only absorb new technology at great cost to the consumer. A healthcare system with fewer hospitals, each slightly larger than today and with higher occupancies, can absorb new technology more efficiently.

- Cost Containment
  Healthcare cannot consume a rapidly growing share of national resources. Its share has grown in 30 years from under 4% of Gross National Product to over 10% today, but this growth will be much slower in future. To borrow a phrase from Winston Churchill, DRG is not the end of moves to contain hospital spending; it is not even the beginning of the end; it is merely just the end of the beginning. There is much more to come.

- Physician Surplus
  We have entered an era of physician surplus. Some of us - and I have recently co-authored a paper on this topic - believe that surplus will evaporate by the year 2000, but it is a reality for the next decade. Consequently medical schools, in their residency programs and undergraduate class sizes, are also troubled institutions. Inner-city hospitals and medical schools sharing a common educational commitment are marriages in which both spouses are going through their mid-life crisis!

- Think Differently
  Corporations in other industries have tried to ride out stormy changes in how they are paid, in the demand for their product or service and in their underlying technology. For the most part, they went under waiting for the

storm to pass. The survivors sailed another course. Hospitals are no different.

From our experience at Cooper, these assumptions are "the Seven Pillars of Wisdom" for hospital management in the 1980's. You will notice that DRG only appears directly in one of them but its implementation cannot be divorced from any of them.

Implementing DRG

Out of this analysis, we developed 12 commandments for DRG implementation. I explained them in detail in a recent speech at Yale University and will happily forward copies of those remarks to anyone interested, but let me summarize them.

I realize that this means that we must learn to obey two more commandments than even Moses brought down from the mountain, but nobody said being a healthcare administrator in the 1980's was going to be easy!

- Understand Your Profits and Losses
  The first lesson is the importance of making this transition with a clear grasp of our financial position. Each hospital enters DRG from an historical perspective of profits or losses. Crucial to effective control under DRG is an understanding of why your institution has previously made money or lost it. If you have a history of profits, these may have been due to operating efficiencies, in which case you enter the new system from a position of some strength. That profit stream may however have been generated by other factors. Perhaps it stemmed from an advantageous payor-mix, with a high percentage of charge paying customers. In a system which moves away from your own historic costs towards inter-institutional comparison of standards, a realistic analysis of efficiency is vital. If your hospital had a prior history of deficits it is equally important to identify why. The reason could be bad debt and free care levels. It could be operating inefficiencies. It could be an unfavorable payor mix. It could be a disadvantageous case-mix. It could also be that certain services are profitable, while others are not. Understanding your profitability or lack of it is the only effective basis to anticipate the radical swings in results which you may experience under DRG. For instance in Cooper's own case, prior to DRG one major contributer to our losses was $1.3 million of annual disallowed direct patient care costs. Because DRG recognizes case-mix intensity, this disallowance fell, at a stroke, upon entering the DRG system to $135,000 annually. If we had not understood this phenomenon, we could have wasted considerable misplaced energy on trimming costs in the wrong area.

- Improve Your Efficiency
  The second lesson for DRG entry is to do something about your efficiency or lack of it. Even if you pass all objective tests of efficiency, that only suggests that your organization is capable of doing even better. Efficiency and quality is the ultimate receipt for surviving under DRG and in a competitive environment. If you appear inefficient, again much energy can be inappropriately dissipated through erroneous analysis of the reasons. Cooper had been plagued for several years by excessive clinical lab costs deemed inappropriate under the previous reimbursement system. The simplistic answer would have been to reduce costs by cutting staff. However, detailed review showed these excess costs were a function of physician ordering patterns. It was on this front that we had to attack the problem.

- Manage Your Length-of-Stay
  The third lesson of DRG management is that the biggest threat to your survival is excessive length-of-stay. You cannot therefore treat your medical staff as customers whose habits of practice you must reflect and respond to in your service configuration. You must view them rather as professionals franchised to practice in a facility for which you, not they, bear ultimate responsibility for ensuring its survival and prosperity.

- Physicians are Your Partners
  The fourth lesson arises from the last two. Under DRG the physician is your partner in management. You cannot do your job without influencing his behavior any more than he can perform his without influencing yours. That is the ultimate meaning of "partnership." Your only viable option is to manage with them. To manage effectively in this area of medical practice, the hospital administrator must secure the working support of respected and influential physician leaders. The medical staff leadership can and must be co-opted into the overall sense of responsibility for the continued viability of the hospital so that most of this process can occur by doctor-to-doctor dialogue. One result in our case was a 15% reduction in length-of-stay in 9 months.

- Educate Your Organization
  The fifth lesson of DRG is the need for organizational education on its impact. The senior administration, even with involvement of the medical staff, cannot operate effectively without the understanding of other constituencies. First, should come the institution's trustees. Otherwise, they will not understand the set of revised priorities which the administration begins to reflect. Of equal importance, each employee in the hospital needs some direct understanding of the impact that DRG has on their functions. They need this basic understanding to appreciate the subtle changes in job emphasis which may impact them directly, such as the enhanced importance attached to accurate documentation. They also need this understanding to relate to the changes in relative staffing between functions which they will see occurring as the administration adapts to this new

way of life. They may for instance have to reconcile a cost reduction program in radiology with a simultaneous increase of staffing in medical records. The senior administration may appear to be a group of inconsistent and arbitrary actors, unless employees can relate such actions to a master sense of the changes affecting their work place.

- Restructure Senior Management?
The sixth lesson of DRG is that you may have to change the structure of your most senior administrative management to ensure that the functions which are central to effective leadership are appropriately resourced at the senior level. For any managerial need, there are various effective options of organizational structure. Consequently, I will not dwell on the precise pattern developed at Cooper. The philosophy upon which it is founded is more important. We identified six areas of responsibility which had to be well-managed individually, if the overall management team was to be effective. These were financial management, operations management, medical management, marketing, strategic planning (including financial planning) and the management of key external interfaces of the hospital. While you may judge it appropriate, and we did, to combine two or more of these key functions in one senior individual, it is vital that each is strongly represented when the management team functions as a group.

- Adjust Your Financial Systems
The seventh lesson of the DRG implementation is that you may have to adjust your financial structure and systems to live effectively in the new environment. As a CEO, I place great reliance on the ability of my Chief Financial Officer, but the changes wrought by DRG on the hospital required at least initially that I concern myself in his support to ensure that his staffing, structure and systems were adequate to cope. Fortunately for me, I have a CFO with the managerial maturity to share with me his fears about the potential gaps in the inadequacy of his staff and operating methods. There are at least three fields where DRG is likely to call for better, or at least changed systems and staffing: budgeting, cost accounting and financial planning. Strategic planning under DRG has had to become much more of a partnership among our planners, marketing staff, facility managers and finance staff to ensure that all proposed developments are carefully analyzed from a multi-disciplinary perspective. In recent decades there has been an almost unspoken assumption that new health services create their own demand. That is now far more questionable.

- Develop a Case-Mix Reporting System
The eighth lesson of DRG is that a case-mix reporting system is indispensable to sound management. You need to know how revenues and costs track back to DRG's, and indeed to individual physician practices. There are a wide variety of good reporting systems available for purchase and their sales people are more effective than I am at stating their relative virtues. It is however vital that you have one.

- Manage From Your Case-Mix Reports
The ninth lesson is that you must use that case-mix report as an ongoing management tool. It is not just a frozen picture of the institution at one point in time. All institutions and situations are dynamic. Those case-mix reports are the basis of much of the medical management task which DRG poses.

- Volume Isn't Everything: It's the Only Thing
The tenth lesson of DRG is that volume is of extreme importance. This is why my earlier listing of the key managerial functions needed under DRG included marketing. Someone at the senior management level must have an exclusive or almost exclusive concern with stimulating increased activity. Perhaps the most important phrase in the whole of the PPS legislation is the reference to "budget neutrality." The Federal Government is intent upon avoiding any growth in its expenditures for medical care. Thus, any one health provider can only secure more income than that allowed for inflation by attracting patients away from other providers. Each hospital is now in competition with its neighbors and alternative delivery systems. Not every one of them will achieve the same growth. Some of them may face closure. The further impact of this competitive environment is that hospitals may have to give much more serious consideration to which services are strong in their institution and capable of growth and which may have to be curtailed. Strategic planning in other industries is almost as much concerned with the fate of nonviable products as with growth plans for strong ones.

- No Hospital is an Island
The eleventh lesson of DRG is that it may well change the nature of your hospital's relationships to key external organizations and constituencies. If you contract with HMO's or PPO's, future negotiations will take a different slant. Other payors, independent of the Federal Administration and state agencies, will inevitably through time change their behavior patterns to respond. In New Jersey for instance we now have for-profit utilization review organizations, competing with the state and federally-funded PSRO, as agents of any third-parties. Our own procedures have had to be varied to accommodate multiple external utilization review.

- Who Will Pay for the Poor?
The final lesson of how to operate a hospital in the new environment still is unresolved. No one has a clear answer as yet to how as a nation we will in future fund medical care for the medically indigent given the apparent decay of philanthropic support for this purpose. We are currently in New Jersey shielded from that problem. Good strategic planning, however, entails contingency analysis.

A Prescription for Survival

A thorough and effective solution on a national scale to the problem of funding indigent care seems to call for new thinking both by hospitals and by the Federal and State governments. Since I earlier described DRG as only "the end of the beginning" in a new national healthcare policy, let me outline some of the future agenda items that we must collectively address.

The historic response of inner-city hospitals to medical indigency and to the high costs of providing care in hospitals with specialized programs and major teaching commitments has been to ask others to help us. We have asked industry for charitable donations. We have asked government to recognize the "unique" elements of our cost structure. In the environment in which we now function, to rely wholly on others to solve our problems seems to me to be ignoring the facts of life.

Those facts are that, for private industry, their capacity for charitable donations is finite. They are confronted by many worthy causes seeking that support. Subsidizing operating deficits in hospitals is unlikely to be a prime attraction. Also, the capacity of government - be it federal, state, county or municipal - to subsidize our operations is equally finite. A short walk through any inner-city community will clearly demonstrate that many other demands exist in our society for social welfare spending by government.

Although I hope that the needs of the inner-city hospitals will continue to receive some sensible priority from government and philanthropists, I do not believe that strategy alone can meet the challenge.

Our response must be one of greater self-sufficiency. As Abraham Lincoln once said "we must think anew and act anew." Of those two activities, the "thinking anew" is the most important, because if we succeed at it we are likely to "act anew."

To manage inner-city hospitals effectively in this new reimbursement and competitive environment, that new thinking should have two broad directions.

Because the challenge is more acute, we must out-perform other hospitals in our management efficiencies. The fact that we may provide highly specialized services, when compared to the typical suburban community hospital, does not mean that those services cannot be provided at a high efficiency level. The fact that we may be major teaching hospitals should not intrinsically imply that we cannot achieve efficient standards of operations.

The other emphasis in this process of "thinking anew" is at the strategic level. Having concluded that we could not expect government or philanthropy to keep us intact, we redefined our strategic posture as an institution. Currently the federal waiver in New Jersey does give us some protection for indigent care costs. Our goal however is to attain the highest possible level of self-sufficiency. The key to this alternative strategy was a decision to relate to government and industry not as our benefactors but as our potential partners. There are three central thrusts to this revised relationship:

- Enlarging a Hospital's Service Area
  First, we are embarked on a strategy to turn ourselves from being "an inner-city hospital" to becoming a "hospital which happens to be located in the inner-city." That process has taken us into a very sophisticated marketing effort to broaden our physician referral patterns and patient base. In only three years it has begun to pay off. Two-thirds of our patients are now drawn from outside the city compared to 40% three years ago. Despite the static or declining population of the city, this suburban outreach has produced continued growth in admissions and outpatient volumes - in fact a growth considerably in excess of national averages. In 1982 admissions increased 2.5% and outpatient visits by 20%. Through the first nine months of 1983, admissions are running over 5% above those 1982 levels and outpatient visits 8% higher.

- Urban Renewal
  The second thrust of this new definition is to work to change the inner-city itself. We have formed in Camden an alliance known as the Greater Camden Movement. It embraces the major industries and other employers in the area. I am its President in addition to my hospital duties. The Greater Camden Movement has forged a daily working alliance with the city administration. Together we are pursuing a wide range of both short-term and long-term initiatives to revitalize the inner-city. Together, for instance, we attracted a new nursing home to a site immediately adjacent to the hospital, largely by cutting through much of the red-tape which often frustrates such project developers. The Campbell Soup Company and Cooper have created a day-care center to increase employment attractiveness in the city. RCA, working with Camden High School, involved a group of students in a space shuttle experiment - drawing international publicity to the city, but, more importantly, kindling an interest in science and engineering and a sense of hope among the children of that school. The concept of a hospital working to change the inner-city may seem ambitious, but for most inner-urban institutions any result such efforts achieve is a positive improvement on the status quo. More difficult perhaps for a hospital leader is the new thinking required for defining his/her responsibility as extending beyond the hospital itself to the welfare of the local community. This requires a redefinition of role from that of the beneficiary of industrial philanthropy to that of industry's partner in urban renewal. And paradoxically, under this revised definition, the philanthropy still flows.

- Partnership with Industry
  The third thrust of this new definition is to take that concept of partnership with industry and to translate it into contracts to trade services of mutual benefit. We have for instance put together alternative financing packages for future hospital parking facilities, assisted the proprietary nursing home in securing its financing and entered into widespread contracts to provide health services to HMO's and a wide range of other organizations.

Towards A New Contract With Government

We put similar effort into seeking a new form of partnership with governmental agencies.

There is a very keen awareness in Washington, certainly in our state in Trenton and in our county and city, that many of the health services presently provided by public agencies are themselves chronically inefficient and wasteful of public funds. Our goal is to sell our expertise to such agencies to run such services more efficiently. When I worked at Montefiore Hospital in New York during the 1970's, I was closely involved in two such initiatives. Montefiore contracted with the city to run the adjacent North Central Bronx Hospital. Montefiore also contracted to provide medical care to a near-by state penitentary. In both cases, the cost of the services provided by Montefiore were lower than those that the Public Sector could provide for itself and concommitantly the quality higher. These examples, replicated several hundred times across the United States, seem to me a key unexploited ingredient in the future health delivery system of our inner-cities. To approach government with such a deal however necessitates the initial achievement of that internal efficiency of which I spoke earlier. Running what you have well is a prerequisite for offering to run something else.

Some 30 years ago government offered hospitals a contract in the form of the Hill-Burton Legislation. It said in essence "take care of those unable to pay and we will assist you with the financing of new construction." The time has come for a new contract between the public and private sectors centered around the proposition "you take care of those unable to pay and operate your institutions efficiently, and we will contract with you to translate those same efficiencies into the public health sector." The nation's municipal hospitals, county hospitals, state hospitals, the V.A. system and the many program-specific public health facilities which exist provide a vast area of challenge and opportunity for government and hospital leaderships working in partnership.

I am not suggesting that this alternative approach will solve all the problems confronting the nation's inner-city hospitals. Nor, perhaps should it, if my earlier statement is correct that we have more hospitals in our inner-cities than we will need a decade from now. This new stance does however offer the potential to keep the residual need for public subsidy or special treatment to the absolute minimum. For this concept to be effective it requires that hospital leadership aggressively pursue and achieve internal efficiencies and organize themselves to be able to devote qualified managerial effort to their external environment.

Dietrich Bonhoeffer, the Lutheran Priest who died in a Nazi Concentration Camp, once wrote that "the weak are always forced to decide between alternatives they have not chosen for themselves." I do not see America's inner-city hospitals as weak. They contain some of the best and most able healthcare brain power in the country. I do not believe that the new prospective payment system compels us to decide between alternatives which we have not chosen for ourselves. Rather, this changed environment requires us to define the new alternatives under which we will survive and prosper and the nation's healthcare system will continue to meet public needs.

I started by quoting the poet who spoke of the "fell clutch of circumstance." That verse continues with a statement which summarizes my feelings as to how inner-city hospitals and their leadership should respond to these new challenges. The poet writes:

> "It matters not how strait the gate,
> How charged with punishments the scroll,
> I am the master of my fate:
> I am the captain of my soul."

We are, and with ingenuity can remain, "the masters of our fates."

FACING UP TO THE NEW TECHNOLOGY

Edward N. Brandt, Jr., M.D., Assistant Secretary for Health
U.S. Department of Health and Human Services

I'm pleased to be your guest this evening and I bring you greetings and best wishes from Secretary Heckler. She, of course, wishes she could have been here to deliver her own message to you this evening. But that was not to be.

However, the Secretary—and, indeed, the entire Department of Health and Human Services—are quite mindful of the leadership role played by the health and medical community of this State. As has been noted many times from the podium, I am sure, the State of New Jersey stepped out front in the matter of cost control and pioneered the system we now call "prospective payment by diagnosis-related groups." The Nation is certainly in your debt.

Let me hasten to add that the Nation may not rise up and tell you that. You may have to enjoy your good deed in silence. But, come to think of it, when you just consider the noise level in our environment today, a moment or two of silence might be an excellent reward after all.

You have been spending a great deal of time these past few days discussing the DRGs, with the assistance of many very knowledgeable people. I would not count myself among that number. Instead, I'm going to take advantage of this opportunity to talk about a couple of issues that need to be considered, when the talk turns to DRGs.

First, what is the nature of our work in health care? What is it we are trying to do...and what is it that the public is expecting us to do? In a word, what is this thing called "health" anyway?

And the second issue is a little different: Are we doing this job of ours any better with the new—and expensive—tools we have to work with?

The traditional way we talk about "health" is in terms of morbidity and mortality...the lower the rates of both, the higher the level of "health." In those terms, our society is doing pretty well.

For the past three decades we have brought about a consistent and significant downward trend in overall mortality and morbidity. Our people are not only living longer than ever before, but they are spending those few additional years of life in better health than their parents or grandparents did.

Here are some specific indicators that make me feel particularly good:

- Persons now in their 30s can expect to live about 6 years longer than their parents...about 74 years on the average, rather than the 68 years of a generation ago.
- During the last 30 years the death rate from heart attacks dropped by 20 percent...the death rate for stroke has come down by 30 percent...and for persons under the age of 45, the cancer death rate has dropped by 33 percent.
- The infant mortality rate is at 11.2 deaths per 1,000 live births, the lowest in U.S. history, and it is still falling at a steady rate.

We can make some educated guesses about the role that medicine specifically may have played in achieving those numbers, but we cannot separate progress in medicine from progress in other areas that have also helped bring about those improved statistics. Better diet, cleaner water, safer housing, improved sanitation, more leisure time, more and better education...all these are important factors.

The public, however, is not as careful as we may be about separating out the component elements of progress. In fact, the American people are quite ambivalent about their state of health.

For example, most Americans—over 80 percent—believe their health is "good" to "excellent." That's the way the answers turn up on surveys conducted year in and year out by our National Center for Health Statistics. Yet, of every 100 Americans, 75 will visit a doctor at least once this year. Of that 75, however, only 12 will be sick enough to be hospitalized, admitted under one or another of those 468 diagnosis-related groups. And of that 12, only one will die prematurely.

Why do the other 63 percent go to the doctor, the ones who do not need hospital care? What do they want? And what do they believe they are paying for during their visits?

Apparently the public believes it can get an answer from the medical profession to almost any personal problem. And I specifically use the term "personal problem" rather than "health problem," because the time has long since passed when physician and patient came together within the narrow confines of "health problems" alone.

Today, our so-called "health care system" is drawn more and more into responding to social and economic and other influences on our lives. It's a situation that can only exacerbate the problem of definition.

Why is this so? Because, for one thing, that question—What is "health?"—lies at the heart of our concerns about Medicare, the program that has been much on your minds for the past 2 days. That historic program is costing the government $64.6 billion this fiscal year alone. If Secretary Heckler were here this evening, she would quickly remind you that the

Medicare budget line takes close to 75 percent of the total health portion of the 1984 budget for her entire Department of Health and Human Services.

Ever since Medicare was born, back in 1965, it has been expanded not only in terms of beneficiaries--it now serves 30 million Americans—but also in terms of coverage. The Government has been trying for several years to get a handle on that problem. And that, of course, is the reason behind the new system of "prospective payment by diagnosis-related groups."

We hope that, as this system is phased in over the next 3 years, hospitals and attending physicians will begin to improve their management performance and reap the dollar rewards of greater efficiency. But I think we are also hoping that such a system will help us "close in" the definition of "health" to something that is more manageable, more measurable, and more rationally reimbursable.

The kinds of problems that the public brings to the medical profession—to your offices, clinics, and hospitals—has without a doubt changed the character of medical practice over the past 30 years. We're having some trouble adjusting to this change, but we're making headway.

I think we'd be much more successful, if we were not also confronting yet another, and equally significant, change occurring within the medical community. It is the change taking place with the introduction of extraordinary new ways to detect, diagnose, and treat a range of conditions. And I want to spend the next few minutes exploring that with you.

As a result of these new technologies entering medical practice—or about to enter medical practice—I believe the current era in medicine is undergoing the kind of change that can best be compared to what happened in the late 1940s and 1950s, when antibiotics and pharmaceuticals also revolutionized medicine.

But first, just what do I mean when I say "technology?" I think the term applies to more than just new hardware. It also embraces the methods of practice...the process by which a physician decides how to approach a particular medical problem...and also the deployment of new technical and professional personnel, an especially acute problem for those of you who manage institutions.

The "CAT" scanner, for example, is a new technology that entered medical practice in the past decade. But the way we operate the scanner...and the way we apply its information to achieve more precise detection and diagnosis...these kinds of considerations are, in my judgment, part of that "new technology."

I should add, however, that our concern should not be restricted just to the newest hardware and methodologies coming into practice. We also need to look critically at the old, familiar technologies as well, the ones that, frankly, may or may not be worth the money they cost.

Of course, interpreting the word "technology" in this way does not provide any answers...if anything, it just raises more questions. And certainly among the most difficult of these are the questions regarding the assessment of medical technology: who should do it and when should it be done.

The way we answer these questions might well define what the future of our profession is going to look like by the turn of the century. Let me attack the first one:

- Who should be responsible for deciding which new technology is ready for general use in medical practice?

There is a feeling that, somehow, the Government is running around deciding this idea is good but that one is not so good...this new instrument is wonderful, but that one is not so wonderful.

That's how the Food and Drug Administration is supposed to be handling new pharmaceuticals, so people assume that's how Government, in general, handles the rest of medicine. But it's not so.

The perception of a busy-body Government probably also stems from an imperfect understanding of the way the Public Health Service provides advice and counsel to the Health Care Financing Administration.

HCFA, as you know, periodically asks the Public Health Service to agonize over a particular medical technology and suggest whether it is safe and effective enough to be reimbursable under Medicare and Medicaid. Right now, our National Center for Health Services Research has about four dozen such questions before it. Some of the technologies under review include...

- Catheter irrigation.
- Intraoperative ventricular mapping.
- Self-contained pacemaker monitoring.
- Implanted heparin pumps.
- Nuclear magnetic resonance imaging.

Our job is to give HCFA an opinion as to whether the specific technology under review is more effective, or less effective, than a technology already available...whether it is safer, or less safe, than what we now use...and whether or not it safely and effectively does something that we can't do any other way.

But please bear in mind, that the technologies under review are only those we've been asked to review in our counseling role to HCFA. There are many other medical technologies that are still experimental or gaining broader use, but we're not reviewing them because we haven't been asked.

This is an important point. The Public Health Service is not performing a general watchdog function over the practice of medicine. Quite the contrary. Our task is specific and carefully circumscribed.

But we do recognize that many other interests are concerned with technology assessment as well. Hence, the National Institutes of Health sponsors a kind of forum where science, industry, Government, and medical practice can gather and discuss new issues in technology.

Each year the Office of Medical Applications of Research at NIH produces a number of "consesus development conferences" on a variety of subjects. This past June, for example, the Office sponsored just such a conference on "Liver Transplant Technology," a subject that has generated intense and widespread public interest.

In the recent past we've had "consensus development conferences" on such topics as critical care medicine, the clinical application of biomaterials, total hip-joint replacement, and antenatal diagnosis. They have been excellent occasions for bringing together the top people in research and clinical medicine and letting them thrash through one of these topics.

We always hope that each conference will close with a general consensus on the state of the particular technology under discussion, how broad or narrow should be its use in medical practice, the level of skill required of a physician who employs it, and so on. Over time, the record generated by such conferences has given us something of a base upon which to rest many of our notions about the use—or the misuse—of technology.

But NIH and the Public Health Service aren't the only groups to watch. For example, the American Medical Association began its own program this year of "diagnostic and therapeutic technology assessment," or "DATTA."

Other assessment efforts are being carried out by the American Hospital Association, The American College of Cardiology, and the American College of Physicians.

Until recently, the process has been more or less ad hoc, a game that anyone could be moved to play: Government...industry...insurance...carriers... individual scientists...and practitioners. Sometimes this kind of self-selection can produce what is socially useful. But that doesn't happen often.

The most serious attempt to answer the question..."Who should do it?"...has been made by the Institute of Medicine of the National Academy of Sciences. During this past year the IOM brought together a high-level committee to see what kind of new organization might be charged with assessing medical technologies across the board.

The IOM Committee had about 50 members representing not only medicine but industry, Government, and the general public. There were members, for example, from the Metropolitan Life Insurance Company, the American Hospital Supply Corporation, the United Auto Workers, and the U.S. Public Health Service.

The Committee has finished its work and has prepared a 50-page report which is on its way to me now. As soon as we get formal delivery of the report, I intend to make its contents public. At that time, I hope all members of the medical community will read and comment on it.

While I don't know all the details, I am told that the sense of the general recommendation is that the job of assessing medical technologies ought to be done by a consortium of interests brought together within the National Academy of Sciences and placed under the joint sponsorship of the Institute of Medicine and the National Academy of Engineering.

So, regarding this first question as to who should decide the acceptability of a technology, we have so far an uneven and frequently puzzling system. But we may have some guidance soon on how to improve what we have. Meanwhile, we still need an answer to a second and an equally important question, which is ...

- When should a technology be assessed and a judgment made that it is—or is not—useful in medicine?

I think if we had a good answer to this question, we would most likely also have an answer to most of our questions regarding medical technology. As it is now, the Public Health Service may review a technology just as it's beginning to get a "bad press"...or, in the case of major organ transplants, just as it's getting too much "press."

We may take a look at a popular technology for which the cost is beginning to climb. It's true, I guess, that we don't have a dollar level below which we don't ask questions, but we seem able to come up with a level above which we do ask questions!

The same is true for numbers of patients involved. When should we take a look at a particular technology? When it is used with "a great many patients?" And just what does that mean?

And we have the same problem with time. Should we, for example, routinely look at the safety and effectiveness of a technology after it has been in general use for 5 years? For 7 years? Or maybe just for 3 years?

Should there be a fixed cycle of time when all technologies would come around for review. Or should we just leave them alone and simply say we will review them "after a reasonable amount of time?"

This question has come up before. But I'm afraid there is a history of its being left unanswered. For example, Clifton Gaus, of Georgetown University, wrote not long ago that...

> "...Multiphasic screening is fast becoming standard operating procedure, yet no one has proven conclusively that the number of diseases discovered is worth the cost of the screening nor, for that matter, that discovering these diseases leads to any improvement in health status. Such a determination should be made," said Gaus, "before continuing on our current course."

Gaus wrote that in 1976, and multiphasic screening is only now beginning to undergo some scrutiny. But it's all quite tentative, since the process has been generally accepted by the public...physicians and technicians know how to do it...Government and insurors have agreed to pay for it...and so it apparently has continued. Is this decision-by-indecision good for medicine and health care? I doubt it. And I'm sure you do, too.

These are the kinds of questions that the medical profession needs to address as a matter of course. The reality, of course, is that we cannot make time stand still until all these questions are answered and the issues all neatly resolved.

And reality is beginning to press in on us, courtesy of this new system of prospective payment that you've been discussing at this conference. In the old days--that is, last summer--the reimbursement system was cost-related. Therefore, as far as the cost of technologies was concerned, the hospitals only had to figure out what to charge Medicare. The costs were passed on and passed through.

But this is going to change, because the DRG system changes the basis for assessing the usefulness and effectiveness of this or that technology.

Now the question is not "How much should we charge?" But "How much will it cost?" As the system begins to take hold, the technology assessment issue will simply turn on the economic value to a hospital of a given technology. This radically changes everyone's perspective. It demands a whole new way of approaching the problem of the expansionary use of new medical technologies.

And there is yet another little feature to this business. Under the Law, the National Prospective Payment Assessment Commission will begin officially operating in 1985. The membership of that Commission will be drawn from across the spectrum of American society. And among it assignments will the assessment of new and existing medical technologies.

As matters stand now, we believe the Commission will need the advice and counsel of the kind of Board envisioned by the blue-ribbon committee of the Institute of Medicine. It's doubtful that the Board would want to incorporate that sort of effort into its already complex agenda of cost controls.

But that is really a side issue. The fact is that the commission will have to deal with such questions as:

- "What is the value of this procedure to society?"
- "How much will it burden the Medicare trust fund?"
- "How cost-effective is it in relation to other clinical possibilities?"

I think we need to be ready for that kind of dialogue. It is only a year and a half away.

By now, you must be wondering, "If this is what the Assistant Secretary talks about, what in heaven's name does the Secretary talk about?" I hope that you may one day soon have the pleasure of hearing for yourself. But I suspect it might have been the same message, only presented with a little more tact.

But if I have been a bit blunt this evening, it may be traced to my feeling that the health care professions have been slow facing the realities of change over the past few years...and they are taking a great deal of time coming to terms with the new and rather severe economic realities of health care.

Yes, there is the reality of the prospective payment system. But there is also the reality of increased demand for services under an ever-widening umbrella called "health." And there is the reality of greater participation by the public in the decision-making process affecting the future of medical technology.

We make quite a bit about the fact that there is dialogue in the health field, but I often wonder how effectively that dialogue is carried out. It reminds me of the story of the gentleman who was asked by an envious friend, "George, you have such a wonderful marriage. How do you two do it? What's the secret?"

And George replied, "Oh, my goodness. There's nothing to it. It's just that Grace and I decided long ago that we'd take time out at least twice a week and go out to a restaurant...some place nice...good food...nice atmosphere...and take our time coming home. And it's worked like a charm. Now Grace, she goes out every Tuesday, and I go out every Friday."

I hope that medicine and the general public will do better than that in the months and years to come.

General Session 6

DIAGNOSIS-RELATED GROUPS: THE EFFECT IN NEW JERSEY - THE POTENTIAL FOR THE NATION

J. Joel May, Health Research & Educational Trust of New Jersey

Since prospective pricing of care for Medicare inpatients became law with the passage early last spring of the Social Security Act Amendments, my office has been deluged with calls from health care providers, researchers, policy makers and reporters -- especially reporters. Knowing that we had been involved with an evaluation of the New Jersey DRG system, they all, in one way or another, posed essentially the same question: Has it worked? I think the answer is no less simplistic than the question itself: It hasn't worked yet, but it's working.

What I mean by this is that the system has not, by any means, fully achieved the goals that its architects and authors had in mind. It has not, for instance, contained the growth in expenditures on hospital inpatient care. In fact, we have considerable evidence that indicates that, at least in the first year or two hospitals came onto the system, more money was actually injected into the system than otherwise would have been the case. This is mainly due to the fact that the rates (in New Jersey) contained provisions for uncompensated care costs, working cash and price level depreciation of major movable equipment, among other things.

The system has, however, succeeded in significantly and fundamentally altering the ways in which hospital administrators think about and manage their institutions.

What I'd like to do in the brief amount of time allotted to me today is to share with you some of the observations we had occasion to make during the course of the project that the Health Research and Educational Trust (HRET) undertook to monitor and evaluate the implementation of the NJ DRG system. Here, I would like to emphasize the word "implementation" since our analysis up to this point has necessarily been limited to that of the initial effects. It is only now that we begin to have a sufficient amount of data and experience so as to enable us to look at questions of how the system has changed access to services, medical practice patterns, hospital production patterns, and perhaps even quality of care.

The changes that have taken place are of course directly attributable to the set of economic incentives that the system creates. Since, at this point in the program, you are probably all too familiar with these incentives, as well as with the dynamics of the system, I would only briefly like to note that unlike traditional, cost-based reimbursement arrangements, prospective per-case pricing creates an inducement to decrease length of stay, intensity of services, the level of amenities offered, the range of services provided, and the prices paid for inputs.

The promise of being able to capture potential surpluses between the payment rates and the actual costs of rendering care has created new roles and relationships within the hospitals. Our analysis has revealed, for example, that the status of medical records departments has risen markedly in relation to other departments. This is largely due to the fact that the information they are responsible for collecting and coding plays a crucial role in determining reimbursement levels. In addition, the advent of a new staff position, that of the DRG coordinator, was inspired by the system. To illustrate how far things have gone, I recently received a call from a college in Pennsylvania asking if I would assist them in developing a curriculum for a baccalaureate degree in DRG management. I still am unable to decide whether this is a positive commentary on how the health care system is adopting more sophisticated management instruments or negative one on the sorry state of higher education.

Perhaps the most noticeable and important change that took place is the increased effort being devoted to collecting more and more complete and accurate data on patients' clinical status and costs of treatment. Apart from providing the information required for calculating future reimbursement rates and reconciling approved with actual revenue, these data can be used for generating a wide variety of useful management reports. These reports, which among other things. break out costs and revenue by DRG, physician, and cost center, are essential if hospitals are to realize efficiency gains. In the absence of such reports, administrators will be forced to tinker blindly with an enormously complex system.

Here, it is important to note that the cost and revenue data hospital administrators now have at their disposal on physicians is being used in a very non-threatening and constructive way. Because physicians are the ones who control the flow of the bulk of the hospitals' resources, their involvement in management decision making under prospective pricing systems is of the utmost importance. And, not unexpectedly, we found that their role in this regard has indeed increased. For example, the DRG hospitals we studied had more physicians employed full-time as medical directors and directors of quality assurance than did the non-DRG ones, and in those hospitals there were 15% more meetings of medical staff committees. I am happy to report that, for the most part, the increased interaction between administrators and physicians has been marked by cooperation, not conflict. Sensible and sensitive ways have been discovered for approaching physicians whose practice patterns appear aberrent, at least from a cost standpoint.

Another, more general, consequence of the DRG systems' imposition has been a shift in the managerial perspectives of administrators. Specifically, the focus has moved away from managing on the basis of costs of inputs -- for example, cost per pound of laundry processed -- to managing by output or product. Here the products are of course the DRG's (or the MDC's) themselves. All of this is made possible through new and better data that hospital administrators now have available. The implications of this new management strategy are far-reaching. It can be expected to lead over time, to significant changes in the operations management as well as the strategic planning approaches employed by hospitals.

Three fundamental changes in the way the system works are beginning to emerge. The first might be called a trend toward "minimalism of care", for just as the firm under perfect competition can be expected to manufacture its product at the lowest possible cost, hospitals too can be expected to reduce costs, and therefore quantities, of care they offer once they have a grip on their respective "product lines." The effect of reducing the quantity of care provided, particularly at the margin, on quality of care is still by-and-large unknown but is an area where there is a pressing need for additional research.

In any event, knowledge of the relative profitability of DRG's is sure to create opportunities for what might be called "defacto regionalization," a situation whereby particular hospitals specialize in rendering care to patients in a limited set of DRG's. Anecdotal evidence suggests that this has already begun to happen in an informal way, and this is a matter which we plan to study in more detail in the near future. It is somewhat ironic to note that regionalization of care may result as a desirable, though secondary, and maybe even unintended, effect of a new reimbursement system.

Though there may be benefits, in the form of gains in efficiency, associated with DRG-induced regionalization, there is a concommitant risk of what may be called "informed dumping." That is, now that hospitals are in a position to determine those DRG's, or products if you will, that are money makers and those that are money losers, the potential exists for administrators at one hospital to encourage physicians who have admitting privileges at neighboring institutions to admit the so-called losers elsewhere. This type of behavior might ultimately imply reduced access to care for certain procedures, or possibly, reduced access to care for certain individuals based on their socio-economic characteristics. Regionalization by DRG's may prove particularly problematic on a national scale. In the fourth year of the program, at which time hospitals will be reimbursed according to a national rate schedule, which differentiates only between urban and rural hospitals, it's possible that hospitals in a sizeable portion of the country will all find that it is unprofitable to treat patients in a given DRG. What then?

In time, as hospitals become more adept in their ability to manipulate and analyze data, it's not unreasonable to expect them to be able to use socio-economic data to identify patients prior to admission, who, in all probability, will prove unprofitable to treat. While I think we are a ways off from that point, it is not too soon for administrators, physicians, hospital trustees, and most importantly, policy makers to begin examining the economic, financial, and ethical concerns that must be brought to bear on decisions regarding which patients should receive treatment.

In the short amount of time that remains I would like to return to a statement I made earlier concerning how effective the system has been in stemming the rise in hospital expenditures. In fact, an analysis we recently completed, and will publish in a month or so, revealed that, overall, the first 26 hospitals that began to be reimbursed by DRG's in 1980 received substantially more revenue than they otherwise would have had they continued to be reimbursed under the pre-DRG system. Specifically, we estimated that in 1980 these hospitals received an average of $2.3 million more. However, the median value was approximately $900,000 per hospital. As I've already indicated, the reasons why hospitals received more money was that the first year rates were intentionally designed to be generous, so as to provide the hospitals with the fortitude to endure the transition to DRG's.

While this is indeed a large sum -- even when considered in relation to the fact that over $3 billion is spent on hospital care in New Jersey annually -- I think that the figure should correctly be viewed as an investment cost. Quite possibly, additional expenditures have been made in years 2 and 3 as well. Yet the behavioral changes described earlier that are taking place in the hospitals and the potential of the department of health to lower rates, through a variety of means, offer compelling reasons to believe that in the next few years expenditures on hospital care will be lower than what they would have been in the absence of DRG's.

However, at this point it is certainly premature to undertake a cost-benefit analysis of the system to determine whether or not the investment made in the early years was a worthwhile one.

Despite the fact that many questions regarding the effects of DRG-based reimbursement remain unanswered, it appears that hospitals are changing the ways in which they're organized and managed so as to enable them to better respond to the economic incentives posed by the system. So long as appropriate checks on quality and access exist, I believe that these changes will result in reduced rates of increase in hospital costs and hence lower expenditures on the part of consumers of care. Nevertheless, hospital payments by DRG will, at the same time, alter the content and structure of the health services delivery system. And it is precisely because of this that the need for careful monitoring and evaluation of the system's effects should not be underestimated.

THE NATIONAL HOSPITAL RATE-SETTING STUDY:
SUMMARY OF CURRENT FINDINGS ON THE EFFECTS OF HOSPITAL PROSPECTIVE PAYMENT SYSTEMS

Craig G. Coelen, Abt Associates Inc.
Richard Yaffe, Health Care Financing Administration

In 1978, the Health Care Financing Administration (HCFA) funded an evaluation of 15 hospital prospective reimbursement (PR) programs. The study is called the National Hospital Rate-Setting Study (NHRS) and was undertaken on a contractual basis by Abt Associates Inc., a research firm in Cambridge, Massachusetts, which specializes in the evaluation of large-scale social and economic programs. Along with Abt Associates Inc., two subcontractors have played a major role in the study: Health Economics Research, Inc., and Policy Analysis, Inc., both located in Massachusetts.

Presented here is a summary of the results currently available from the study. Findings cover not only the effects of prospective payment on hospital costs, but also the effects on a wide range of other outcomes, including hospital revenues, patient outcomes, investment spending, and cost-shifting among payers. This is the first time that this comprehensive set of findings has been reported.

Background

The funding of this major evaluation effort by HCFA in 1978 represented one more step in the series of activities that the federal government had undertaken to support the development and implementation of prospective reimbursement methods and to evaluate their effectiveness in containing hospital cost inflation.

Between 1972 and 1978, the Social Security Administration (SSA) and then the Health Care Financing Administration (after it was formed in 1976) supported a number of different developmental studies and experiments in support of prospective reimbursement. SSA and HCFA supported the development and/or implementation of PR programs in over 10 states, either by providing partial funding for developmental activities, and/or by participating directly in some programs, that is, agreeing to pay hospitals in those states, amounts established by PR programs.

In 1974 the Office of Research and Statistics of SSA funded evaluations of seven of the early prospective reimbursement progams operating in six states: Pennsylvania, New York (upstate and downstate), New Jersey, Rhode Island, Indiana, and Michigan. The results of these studies were ambiguous, and the studies all suffered from serious methodological limitations. For example,

- Only the first few years of program operation could be evaluated.
- The method of specifying control groups limited the confidence with which one could estimate what performance would have been in the absence of prospective reimbursement.
- It was difficult to distinguish PR program effects from effects due to the Economic Stabilization Program (ESP), which coincided almost completely with the years of program operation.

In addition to these methodological problems, the usefullness of the early evaluations was further eroded by the fact that many of the programs had undergone important changes by 1978, attempting to rectify early shortcomings; for example, they experimented with new approaches to budget review and reimbursement controls, and gave significantly greater legal authority to the programs.

Then, in 1978, HCFA funded this evaluation of PR programs in order to determine more definitively whether or not PR programs were effective in slowing the rate of inflation in hospital costs. The question could now be asked about a larger number of programs, and many of these programs had been in existence long enough to be considered mature and well developed. Originally, the study was to include 9 programs; it was later expanded to include 15.

Major Policy Issues Addressed by the Evaluation

When the study was undertaken in 1978, the major policy question at that time was:

- Is prospective reimbursement effective in reducing the rate of hospital cost inflation?

This question had still not been answered unambiguously by previous studies and was viewed as the most fundamental issue to be answered by this study. In the years since 1978, preliminary results from this study, as well as results of other studies, all indicate that many of the PR programs have indeed been successful in slowing the rate of hospital cost inflation. In an article published in the HCFA Review in late 1981, Coelen and Sullivan reported some preliminary findings from the NHRS based on their analysis of hospital financial data from the American Hospital Association's annual survey of hospitals, covering the period from 1969 to 1978. (Coelen, C., and Sullivan, D: An

15 Prospective Reimbursement Programs

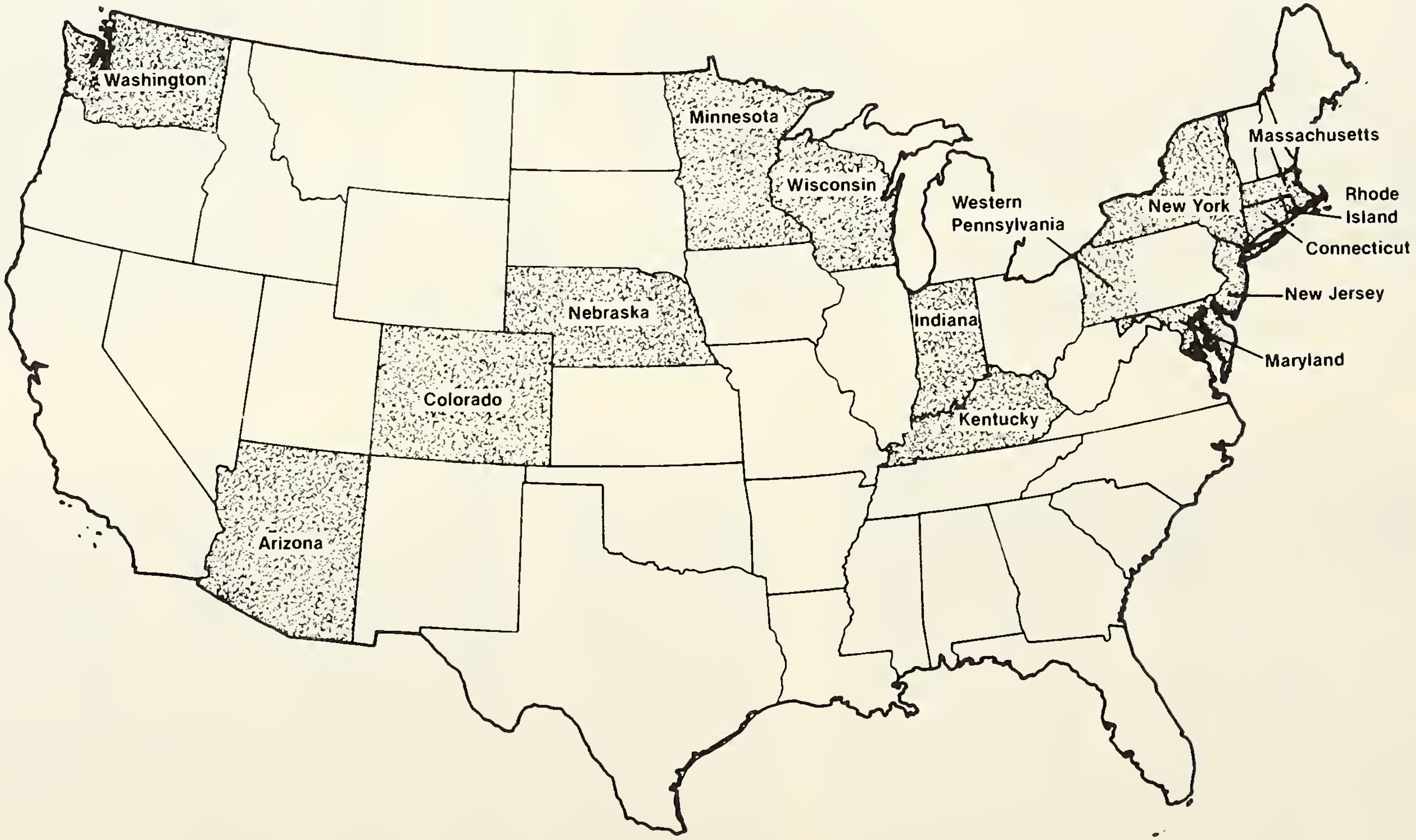


Figure 1

Comparison of Program Characteristics

	Legally Mandatory	Broad Coverage	Stiff Criteria	Little Negotiation	Set Rates
New York	Yes	Yes	Yes	Yes	Yes
Maryland	Yes	Yes	Yes	Yes	Yes
Washington	Yes	Yes	Yes	Yes	Yes
New Jersey	Yes	–	Yes	Yes	Yes
Rhode Island	Yes	Yes	–	–	–
Connecticut	Yes	Yes	–	–	–
Massachusetts	Yes		Part	Yes	Part
Wisconsin	Yes	Yes	–	–	–
Colorado	Yes	–	–	–	Yes
Indiana	–	Yes	–	–	–
Kentucky	–	–	–	–	–
W. Pennsylvania	–	–	–	–	–
Arizona	–	–	–	–	–
Minnesota	–	–	–	–	–
Nebraska	–	–	–	–	–

Table 1

analysis of the effects of prospective reimbursement programs on hospital expenditures. Health Care Financing Review: p. 1, Winter 1981.)

In summarizing their findings, they reported:

"The statistical evidence indicates that some PR programs have been successful in reducing hospital expenditures per patient day, per admission, and per capita. Eight programs have reduced the rate of increase in expenses by 2 percentage points or more per year and, in some cases, by as much as 4 to 6 percentage points."

Since these preliminary results were published in 1981, the evaluation team has been involved in constructing a data base and carrying out a series of analyses which greatly expand the scope of the evaluation beyond the basic question of whether or not PR programs reduce the growth of hospital expenditures. Many other issues with important policy implications are also being addressed. For example, if PR programs are successful in slowing hospital cost inflation, are there related effects on:

- The quality of patient care?
- The financial status of hospitals?
- The accessibility of hospital services?
- Costs in other sections of health care such as hospital outpatient care, physician services, and long-term care?

Another is whether and to what degree prospective reimbursement programs may be associated with either an increase or a reduction in "cost-shifting" among payer groups. Cost-shifting might simply be defined as the extent to which a particular payer of hospital services (Medicare, Medicaid, Blue Cross/Blue Shield, commercial insurers, or self-pay patients) pays more than or less than the costs incurred for the services used by its respective patient group.

Prospective reimbursement programs, depending on their features, may either increase or decrease cost-shifting. For example, some programs have explicitly set out to reduce cross-subsidization through realignment of costs and charges, whereas other programs have increased the potential for cost-shifting by excluding charge-based payers. To government agenices and to private health insurers, the extent to which prospective payment systems either increase or reduce cost-shifting is of considerable concern.

Another set of issues being studied focuses on how hospitals might achieve the observed reduction in cost inflation. PR programs operate by limiting the amount of revenue that hospitals receive. Their effects on hospital expenditures depend on the ways in which hospital managers respond to the incentives of the reimbursement program. In studying hospital's responses to PR, the evaluation is focusing on a wide range of measures including:

- Volumes of services, for example, admission rates, occupancy rates, and length of stay.
- Productivity, including measures of staffing levels, composition of staff, and wage rates.
- Capital spending, including measures of new investment in plant and equipment.
- Hospital management activities, including specific cost-containment activities.

Another major area of the evaluation involves the comparative effectiveness of the 15 programs being studied. Are there major differences in program characteristics? Which programs are most effective? Is there a best or a better model?

The 15 programs included in the evaluation provide a good cross-section. First, as is indicated by the map in Figure 1, the 15 programs are spread out across the country, with Washington state in the Northwest, Arizona and Colorado in the Southwest, and the heaviest representation in the Midwest and the Northeast.

Table 1 provides a comparison of program characteristics for the 15 programs included in the evaluation. The table reflects the characteristics of these programs in 1978-1979, the period when our detailed case studies were carried out. The characteristics shown across the top include:

1. Whether program participation was legally mandated.
2. Whether the program included most of the payers.
3. Whether stiff criteria were applied in reviewing budgets.
4. The extent to which the program permitted negotiation.
5. Whether the program set actual payment rates as opposed to setting overall limits on hospital budgets and then expecting hospitals to set their rates accordingly.

A "yes" for any of these characteristics can be viewed as an indication that the program appears to be a more stringent one, at least for the characteristic indicated.

Programs that appear to be more stringent will be likely to bring greater pressure on their hospitals to contain cost inflation. Put another way, we might expect the more stringent programs to demonstrate greater effectiveness in reducing cost inflation. The programs fall into three groups: New York, Maryland, Washington, and New Jersey appear to be the most stringent programs; programs in Rhode Island, Connecticut, Massachusetts, Wisconsin, and Colorado constitute a second group, all legally mandated, but less stringent with respect to either their coverage or their rate-setting methods; finally, the other programs (Indiana, Kentucky, western Pennsylvania, Arizona, Minnesota, and Nebraska) fall into a third group, all voluntary programs, none with broad payer coverage, and none using very stringent rate-setting methods.

It is important to note that because of the way the characteristics cluster, it is not possible to determine the effects of individual characteristics. That is, we cannot separate the effects of a program's being mandatory from a program's having broad payer coverage or stiff rate-setting methods. We can, however, determine whether programs that appear to differ in relative stringency overall demonstrate differences in their abilities to restrain cost inflation.

One final comment on the variation in program characteristics: It should be very clear from the table that we are not evaluating one well-defined and uniform approach to hospital reimbursement in 15 different areas. Rather, we are using a common methodology to evaluate 15 distinct approaches to hospital reimbursement.

Nature of Evalation

The NHRS has employed both a case study methodology and statistical analyses to evaluate the various prospective reimbursement programs. In the early part of the study, in-depth case studies were carried out. These case studies documented both the organizational structure of the programs and the specific operational characteristics of the rate-setting methodologies. These case study reports were published by HCFA in 1980 and were widely disseminated, assisting state and federal policy-makers and planners who have been involved in planning and implementing new or modified PR programs in the last few years.

The project has compiled data on almost 2,700 hospitals for each of the 10 years from 1970 to 1979, covering the period before and after the introduction of prospective payment. All nonfederal, acute care hospitals in the 15 states are included in the analyses, as well as a 25 percent random sample of similar hospitals in the remainder of the 48 contiguous states and the District of Columbia, which was used as a "comparison group."

Using a statistical model, we can, for example, compare the cost per day and the annual change in cost per day between hospitals under prospective riembursement and hospitals in other states without PR. We are able to adjust for any differences that may have existed in the PR and comparison areas before the introduction of prospective riembursement. We are also able to adjust for other factors that may have intervened during the period, such as differences in population characteristics, availability of physicians or nursing home beds, and the effects of regulatory programs like Certificate of Need, PSROs, and the Economic Stabilization Program.

Sources of Data

The two most important sources of data used in the study were the American Hospital Association (AHA) annual surveys and Medicare Cost Report data. The AHA and Medicare Cost Report data were used to study the impact of PR programs on hopital cost inflation, hospital financial status, volumes of services, productivity, and capital investment. Several other data bases were constructed to study other issues. To study the impact of prospective reimbursement on access to health services, a longitudinal data base, covering seven years, from the National Center for Health Statistics' Annual Health Interview Survey was constructed. To study the quality of care, a large patient-level data base was used, along with data on hospital accreditation status. A special file of Medicare utilization data was constructed to study the effects of PR on the use of other types of health services such as outpatient and long-term care. Finally, to study the impact of PR on the organization and management of hospitals, a survey of NHRS sample hospitals was carried out by the AHA in 1981.

The breath and depth of the data that were used in this evaluation is extraordinary. Literally hundreds of measures of hospital performance were compiled for 40 percent of the nation's community hospitals for each of the 10 years from 1970-1979.

During the next year, we will be updating this data base to include data for 1980 and 1981. All of the major results that will be reported today for the period through 1979 will be updated through 1981 and will be available by next summer. A summary of the findings being reported today will be available early next year.

Effects of PR Programs on Hospital Expense

Various other studies in the past several years examined the effects of PR programs that were in place in the late 1970s, and they have generally concluded that the programs were effective in reducing the rate of increase of hospital expenditures per patient day, per case, and, in some instances, per capita. Our findings are, in fact, consistent with those other results. For 8 of the 15 programs, we found statistically significant reduction in hospital expenditures per adjusted patient day. The effects for the 8 programs were large. The rate of increase of hospital expenses per adjusted patient day fell as a result of the programs by two to five percentage points. Because programs were in existence for three, four, five, or more years, annual effects compound over time; by the end of a four-five year period, the effect on hospital expenses is quite substantial. To provide numbers that are as comparable as possible across programs, our estimates of program effects reflect the percentage reduction in hospital expenses at the end of a five year period.

The first column in Table 2 presents estimates of the effects of the eight programs on hospital expenditures per adjusted patient day in year five. The estimated effect on cost per patient day for New York illustrates the proper interpretation of the results: hospital expenditures under the program were 22 percent lower in the fifth year than they would have been had the program not been in effect. Our estimated five percentage point effect per year for the program in New York compounds over a five year period to a much larger percentage effect. The estimated cumulative effect of these eight programs--the total of the savings in the first year, the second year, etc.--is a savings of $7.6 billion. There is one important qualification, however.

The second and third columns of the table indicate the adverse effects of substantial increases in length of stay which resulted from the programs. The old rate-setting programs, those in place before the advent of case-based reimbursement, had strong incentives for hospitals to increase the number of days per admission. The results indicate that those increases in length of stay were so large, in some instances, that they actually wiped out economies in cost per patient day. For the state of Washington, for example, the 12 percent reduction on cost per patient day was completely offset by a very substantial increase in length of stay. Looking at the effect of Washington's program on cost per admission, one finds that that effect is negative, but not statistically significant.

Only 5 of the 15 programs were effective in reducing costs per admission by a statistically significant amount. Increases in length of stay reduced the overall savings achieved by half. The $7.6 billion savings that one would have expected from estimated reductions in cost per patient day was reduced to $3.8 billion. Thus, the overall average effect of the eight programs listed in Table 2 was reduced from an 18 percent savings to a 9 percent savings.

The last two columns in Table 2 indicate the effects of changes in hospital admissions on the savings achieved by programs. For all eight of the states shown, admissions per capita declined during the period when PR programs were operating relative to what was happening in other states. In only four of the eight cases, were the reductions in the admissions per capita large enough and consistent enough to be statistically significant. However, reductions in admissions, if one believes they are the result of the PR programs, end up adding to the effects of the programs on cost per admission and produce larger effects on cost per capita.

We have no convincing explanation for why the kinds of programs that were in effect during the last half of the 1970s should lead to reductions in admissions. Although the estimated effects of PR programs on length of stay are consistent with expectations, we cannot explain why hospitals had any incentives to reduce admissions. As a result, we recommend a conservative conclusion that, at worst, changes in admission did not offset the savings that the programs produced in cost per case.

A second important focus of the evaluation is the effects of prospective reimbursement programs on hospital revenue. Because PR programs are revenue-controlled programs, they have a direct effect only on hospital revenue. The effects they have on hospital expense come only indirectly and occur only to the extent that hospitals and physicians respond to the downward pressures on revenue by implementing various cost containment programs. If programs have no effect on hospital revenue, it is unreasonable to expect that they would have any effect on hospital expense. Furthermore, if the effects on revenue are relatively small, hospitals may be able to finance those shortfalls in other ways and may choose not to economize on staff, wage rates, supplies, and other components of expense.

Because hospital revenue measures the amount that people pay for hospital care, considerable importance should be attached to the effects of PR programs on hospital revenue per se. All 15 of the programs were associated with reductions in the rate of increase in net patient service revenue per adjusted patient day; for 12 of the programs the reductions were statistically significant. For the 3 programs for which estimated effects were not statistically significant, the estimated reductions were quite small--only 0.5 percentage points per year. For most programs, estimated reductions

Table 2

Estimated Fifth-Year Effect (Percent)

STATE	$/DAY	LOS	$/CASE	ADMs/POP.	$/POP.
New York	**−22**	**+10**	**−13**	**− 4**	**−15**
Rhode Island	**−17**	**+ 7**	**−10**	− 2	**−10**
Maryland	**−17**	**+ 8**	**− 9**	− 1	**− 4**
Massachusetts	**−15**	**+12**	− 4	**− 8**	**−10**
Connecticut	**−14**	**+ 5**	**− 8**	**− 6**	**− 8**
New Jersey	**−14**	**+ 9**	**− 6**	0	**− 3**
Washington	**−12**	**+10**	− 1	**−12**	**−10**
Kentucky	**− 9**	**+ 9**	+ 1	− 1	**− 4**

Estimates in bold-faced type are statistically significant.

were 2 percentage points or more; the New York program reduced the rate of growth of patient revenue by a very substantial 7.5 percengate points per year.

In virtually all cases, effects of programs on revenue were larger than effects on expenses. For the eight programs listed in Table 2, for example, average annual effects on expense per adjusted patient day, compounded over five years, produced an 18 percent savings in the fifth year. The comparable estimate for revenue per adjusted patient day is a savings of 25 percent. The differential effects of programs on revenues and expenses have very important implications for net income and operating margins for hospitals. We will return to these issues of financial status later.

Because of the extensive data available for this evaluation, it was possible to examine changes in reimbursement rates for individual payers. Rates of increase in Medicare reimbursement and in prices paid by charge-based payers were examined for all 15 programs. Because of the special data supplied by Blue Cross plans, it was possible to examine Blue Cross reimbursement also, but only for 11 of the 15 programs.

By and large, all payers benefited from the implementation of PR programs, whether they participated in the programs or not. Rates of increase of charges per adjusted patient day were lower for all 15 of the programs, and 10 of the estimated reductions were statistically significant. As mentioned, Blue Cross reimbursement was studied for only 11 programs; but for 10 of the 11 cases, Blue Cross achieved significant savings. Medicare achieved some savings even where they did not grant a waiver and remained on cost-based reimbursement, largely as a result of reductions in the rate of increase of hospital expenses. For 10 of the 15 programs, Medicare's savings were statistically significant.

Although all payers tended to benefit from a given program, not all benefited to the same degree. Blue Cross tended to benefit more than other payers in those programs which excluded charge-based payers. Charge-based payers benefited more than others in only a few of the programs: in Maryland, where the program attempted to realign costs and charges by department; in Connecticut, under its charge-control program; and in New York in 1978 and 1979, after controls were imposed on rates of increase in charges. As indicated, Medicare benefited in most programs. However, in relative terms, Medicare generally lost: if Medicare had done as well as participating payers in nonwaiver programs, it would have achieved an additional five percent savings on its payments in those states.

Differentials in the effects of some programs on reimbursement for various payers were large, and the differences have important implications for the competitive position of Blue Cross versus commercial insurance. The best illustration is found in New York in 1976 and 1977, before New York's charge-control program began. During that two year period, the rate of increase in charges per patient day was 6 percentage points below the average for hospitals not covered by PR. That is a large effect. For Blue Cross, however, the rate of increase in payments per patient day was 12 percentage points below the average for non-PR states. The 6 percentage point differential, even over a two year period, produces a significant change in competitive advantage. For example, if Blue Cross was operating with a modest 10 percent discount relative to charges in 1975, by the end of 1977 the 6 percentage point differential in program effect would have increased Blue Cross' discount relative to commercial insurers from 10 percent to a very substantial 27-28 percent.

Some may look at these differential effects on reimbursement across payers as a kind of cost-shifting. In a way, this interpretation is correct, for differential effects on rates of change cause reimbursement relative to average cost to change more over time for one payer than for another. The fear of some payers about PR programs, however, is that a more severe type of cost-shifting would occur. Several conditions must be met for this latter type of cost-shifting: participating payers impose a relatively stringent limit on the rate of increase of their reimbursement; hospitals are either unwilling or unable to lower the rate of increase of expenses commensurately; to cover some or all of the loss incurred on the patients of participating payers, the rate of increase of reimbursement for nonparticipating payers is set above the rate of increase in expenses. Reimbursement relative to average cost rises in absolute terms for nonparticipating payers to subsidize a decline in reimbursement relative to average cost for participating payers.

Among the 15 programs, the more severe type of cost-shifting occurred in only one place. In New Jersey, between 1975 and 1979, Blue Cross reimbursement fell relative to average expense per adjusted patient day, whereas payments from charge-based payers rose relative to average cost. It is important to note that the degree of cost-shifting was not particularly large in the case of New Jersey--charges rose slightly faster than cost, and Blue Cross payments rose slightly slower. In fact, relative to experience in states without PR, charge-based payers actually saved money as the result of the New Jersey program. Nevertheless, a gain in net income from one group of patients was used to offset a loss in net income from another group.

Effects of PR Programs on Financial Viability of Hospitals

One of the most important areas of analysis in the study is the impact of PR on the financial status of hospitals. Data from income statements and balance sheets for a large sample of hospitals for all of the 1970s allowed examination of a number of financial indicators--margins (net income as a percent of revenue), indebtedness (long-term liabilities as a percent of total assets), and liquidity (current assets as a percent of current liabilities).

It is important for understanding the results of these analyses to be aware of the financial status of hospitals in the early 1970s, prior to the start of most PR programs. The average hospital was in a relatively strong financial position in the early 1970s. Long-term debt was relatively low, minimal compared to other industries. Liquidity was very high, substantially above that of the average manufacturing firm. Hospitals typically incurred small losses on services to patients, but offset these losses with income from other sources--parking lots, gift shops, etc. Asked to comment on financial indicators for the average hospital in the early 1970s from the perspective of rate of return on investment, a financial analyst probably would have recommended increases in long-term debt (higher leverage), conversion of working capital into other assets (higher rates of return), and other actions to increase profitability.

PR programs had clear effects on financial status. Because programs had larger effects on revenue than on expenses, operating losses increased under PR and by enough that it was no longer possible for hospitals to offset all of their losses on patient services from other sources of income. Operating in the red, hospitals could not use "profit" to finance the increases in working capital that are usually necessary over time to offset the effects of inflation. Liquidity declined, and long-term debt was used increasingly to finance purchases of plant and equipment. Just as large federal deficits lead to higher federal expenditures for interest in later years, higher indebtedness for hospitals mean higher health care costs in the future.

Because most hospitals started the 1970s in a very good financial position, the losses resulting from PR were sustainable without financial joepardy by most hospitals. In a less strong financial position at the outset, hospitals might have responded to PR by more significantly reducing the rate of increase in expenses. One way of interpreting the evidence of PR effects on cost, revenue, and financial indicators is that PR caused a cost-shifting over generations. The relatively strong financial positions built up in the late 1960s and early 1970s, allowed hospitals covered by PR to charge prices below average cost in the late 1970s.

In New York, the effects of PR on financial status were quite large. In that state, the impact of the program on hospital revenue was much larger than the impact on hospital expense. Of the savings that were achieved in New York on hospital reimbursement, a full 20-25 percent was "financed" in the form of operating losses. For the average New York hospital, liquidity fell below the accepted norm for the industry, and long-term debt rose faster than in other PR states. To fully appreciate the significance of the changes in New York, one must realize that hospitals in that state started the 1970s in a much leaner financial position than hospitals elsewhere.

The general issue with respect to financial viability of hospitals is not whether PR programs put hospitals out of business during the 1970s, but how close the programs pushed hospitals toward the edge. Clearly committed to prospective payment for hospitals in the 1980s, at least for Medicare, we must watch carefully that potentially more serious changes in financial status do not occur in the future.

Effects of PR Programs on Quality of Care

One area of potential impact of PR that we have known very little about to this point is quality of care. Quality of care was a major focus of this evaluation. It could not be measured directly, so we chose to examine a set of variables which we thought would be widely accepted as indicators of quality--in-hospital and 180-day-post-hospitalization fatality rates and 90-day-post-discharge readmission rates. We also examined accreditation rates of hospitals for evidence of adverse effects.

A methodology was chosen for the study of quality which maximized chances of detecting any adverse effects of PR which might exist. A very large sample was used--over 670,000 discharge records for the 1974-1979 period. Panels of physicians and hospital administrators selected categories of diagnoses and procedures for which patient outcomes were most likely to be adversely affected by cost-containment efforts; the 68 categories selected are referred to as care-sensitive groups. The patients for whom records were analyzed are Medicare patients, the frail, elderly group most likely to be at risk of adverse outcomes. Differences in severity of cases across hospitals and years was taken into account by statistical adjustments for age, sex, primary diagnosis, and whether or not there was a secondary diagnosis for each patient. Finally, we relaxed the standard statistical criteria for determination of whether or not an estimated effect is statistically significant.

The analyses of fatality and readmission rates produced a large number of tests for relationships between PR and patient outcomes. We computed two fatality rates (in-hospital and within 180 days of admission) for each of four aggregations of the 68 categories of care-sensitive diagnoses/procedures (urgent care cases, elective surgery cases, heart attack cases, and the sum of all 68 categories of cases). These eight outcome measures (two rates for each of four types of cases) were then examined for 21 different PR programs or variants of programs;[1] so that 168 tests were made for relationships between PR and fatality rates. Only one readmission rate was computed, proportion of patients readmitted to any hospital for any reason within 90 days of discharge, but the four aggregations of diagnoses/procedures and 21 program versions yielded 84 tests.

The pattern of results for tests on fatality and readmission rates was what one would expect to find if, in fact, there was no association between PR and patient outcomes but a large number of tests had been made for the existence of a relationship. Of the 168 tests on fatality rates, 134 indicated no association, 24 indicated an adverse relationship, and 10 indicated a favorable relationship. Of the 84 tests on readmission rates, 63 implied no association, 12 implied an adverse relationship, and 9 implied a favorable relationship. The small percentage of statistically significant results occurred despite the fact that standard criteria for significance were relaxed. Furthermore, no systematic patterns existed among the significant results; adverse effects were found at least as often for weak PR programs (those with little or no effect on hospital expenses) as for strong programs, and favorable effects were similarly scattered across programs. Since some significant relationships will be found by accident between unrelated variables when multiple tests are made, we conclude that no systematic relationship existed between patient outcomes and the PR programs implemented during the 1970s.

Despite our conclusion, others may interpret the fact that some adverse relationships were found in the study of patient outcomes as a basis for concern. It is wise to keep in mind that our conclusion, of no association between PR and patient outcomes, is strictly applicable only to the programs we studied and only to the period of the 1970s. Continuation of the same or tougher programs in the 1980s might produce a different pattern of results.

The study of accreditation rates uncovered what may be a short-run adverse effect of PR. At the start of the 1970s, hospitals in PR states had accreditation rates about 10 percentage points higher than hospitals in other states. As accreditation criteria were tightened over the period, rates fell in all states. In 1975 and 1976, however, rates among hospitals in some of the tougher PR programs fell by a larger amount than rates among other hospitals. It is important to recognize that by 1978 and 1979 the initial 10 percentage point differential had been restored. Lacking detailed information on the accreditation criteria that PR hospitals had relative difficulty satisfying, we do not have a good basis for determining the seriousness of the short-run deterioration in accreditation under PR. We will examine accreditation rates with additional data in coming months.

Effects of PR Programs on Health Care Cost and Utilization Outside Hospitals

One of the objectives of the evaluation is determination of the degree to which some of the savings in hospital reimbursement and expenses might be offset by higher utilization and expenses for nonhospital health care. For example, does PR lead hospital-based physicians, whose services were previously reimbursed as part of the hospital's bill, to bill separately? Do hospitals discharge patients sooner, leading to more outpatient visits, more nursing home days, or more care from home health agencies? Data for a five percent sample of Medicare beneficiaries in each of 1,300 counties for the years 1974 to 1978 were used to address these questions.

There is no evidence to support the view that PR leads to increased use of nonhospital health care services and higher nonhospital health care costs. Among the programs examined, there were seven instances in which statistically significant associations were found between PR and nonhospital expenses. In all seven cases, nonhospital health care costs fell in conjunction with program implementation. Five instances were found of significant associations between PR and physician visits per Medicare beneficiary. In four of the five cases, visits went down; only in one instance were visits higher. Finding no good explanation for PR leading to reductions in nonhospital health care cost and utilization, we choose a conservative conclusion, that PR programs do not have an offsetting effect on nonhospital health care costs.

Mechanisms for Change

What happens within hospitals to bring about the estimated reductions in expenses? What are the sources of savings? These issues were addressed by several of the analyses of the study. A few mechnaisms for change have already been mentioned--increases in length of stay (diminishes program effectiveness) as well as reductions in liquidity and increases in indebtedness (both less likely sources of "savings" in the future). What other changes occurred?

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[1] When a program underwent substantial change, each version of the program was treated as a separate prospective reimbursment system.

Hospital expenses were decomposed in two ways to identify the areas of operation most significantly affected by PR. An examination of program effects on expenses for routine versus ancillary departments yielded no systematic patterns: the largest effects for some programs were on costs for routine departments, but for other programs relative effects were equal or were largest for ancillary departments. In general, both payroll and nonpayroll expenses grew more slowly under PR than elsewhere, but the largest percentage point reductions were in nonpayroll expenses. Savings in payroll expense came largely in the form of slower rates of increase of hospital employment (not in the form of absolute reductions in staff). Employment of RNs appeared not to be affected by the programs, so the slower rates of increase in staff occurred only in other employment categories.

PR programs had little or no effect on hospitals' spending on buildings and equipment, nor did investment spending seem to be distributed differently among hospitals. Earlier in the study, using data only through 1978, we found that diffusion of various services among hospitals was slowed, but only to a small degree, as a result of PR, particularly in New York but to a lesser degree also in Maryland, Minnesota, New Jersey, Washington, and Wisconsin. (Cromwell, J., and Kanak, J.: The effects of prospective reimbursement programs on hospital adoption and service sharing. Health Care Financing Review: 67-88, Dec. 1982.) Only in New York did these changes in diffusion of services translate into a statistically significant reduction in aggregate investment outlays. During the 1970s, therefore, effects of PR on hospital expense did not arise from substantially lower rates of capital purchases.

The American Hospital Association conducted a special survey for the evaluation in late 1981 that allowed examination of potential differences in administrative procedures and accounting practices between hospitals covered and not covered by PR. No major differences were found. From among a large number of practices and procedures investigated, only preadmission testing, discharge planning, and use of financial consultants were more common among hospitals covered by PR programs than among other hospitals. As part of the survey, hospital administrators in PR states were asked for their subjective assessments of the effects of PR on their operations. About 13 percent believed that revenue limits had produced some deterioration in quality or accessibility of hospital care; over 60 percent, however, indicated that PR had either not affected hospital operations or had lead to an improvement in their hospital's financial status.

Summary of Results

A number of the findings of the study are worth reviewing. PR reduced the rate of increase of hospital expense per admission in 5 programs by two percentage points a year. Significant effects on hospital revenue were found for 12 programs and were almost always larger than effects on expenses. Particularly in New York, where hospitals started the 1970s in the leanest financial position, some deterioration in financial status occurred. No adverse effects on patient outcomes and no offsetting increases in nonhospital health care costs occurred. Although length of stay rose as a result of many PR programs and offset half of the savings in cost per patient day, no increases in admissions were found to further reduce potential savings. All payers, participating or not, tended to benefit from PR, but the largest benefits were realized by payers included in the programs. Finally, it was hospitals, in the form of larger operation losses, rather than excluded payers who "financed" any shortfall in the difference between revenue and expense.

Implications for Medicare's Prospective Payment System

Built into Medicare's new prospective payment system (PPS) is a substantial savings for Medicare. Evidence from our analysis of PR programs during the 1970s suggests that other payers may benefit as well, to the extent that PPS exerts downward pressure on hospital costs. Evidence from the 1970s suggests further, however, that other payers would benefit more from an all-payer prospective reimbursement system.

The utilization incentives built into the new Medicare system are not only appropriate but very important. The adverse incentives in earlier PR programs for increases in length of stay substantially diminished program effectiveness. Medicare's system should lead to reductions in length of stay and thereby avoid a potentially large dimunition of effect. Adverse changes in number of admissions could result from the new program, however; effective utilization review might offset this incentive.

The evidence from the National Hospital Rate-Setting Study should support those who are ready to proceed with prospective reimbursement as a hospital cost-containment device, but the evidence is more appropriately interpreted as giving a yellow light rather than a green one. Patient outcomes did not seem to be affected by PR during the 1970s, and hospitals were able to absorb adverse effects on financial status. These are important areas of concern, however, and bear watching.

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General Session 7

NEW JERSEY: PAST AND PRESENT

J. Richard Goldstein, M.D., New Jersey Commissioner of Health

Where do we go with Diagnosis-Related Groups (DRGs) and what is the likely future? I think it is clear from listening to the various presentations at this conference that the health care system could be affected in different ways. However, there are just too many forces to successfully prognosticate the impact on the overall health care system. On a practical level, we see the DRG system in New Jersey as a way to monitor our state of health. It is an after-the-fact system because the disease process would have already occurred. But it is such a ready mechanism to gain accurate information on the type of illnesses occurring in the New Jersey population that we feel this should be a major focus in the future. The Department of Health has organized much of the hospital data from the DRG program. If public health professionals can meaningfully tap into that data for evaluating our public health programs, we can target them more successfully.

The second logical evolution of the DRG system would be a more standardized care pattern practiced by our physicians. A move in this direction has been evident in medicine for a number of years. There already exists computer programs with protocols for taking care of patients that range from handling a patient who comes to the emergency room with a bloody nose to treating a patient in a coronary care unit who has a premature ventricular contraction. I think that the DRG system is going to emphasize much more of those protocols. Hopefully, this will improve the quality of care, because the physician community and the professors and the teachers in the health care system will have to communicate to determine the proper protocols. This provides the opportunity for physicians in private practice who are most distant from the university situation to benefit from the university experience of what are accepted and practical treatments. Initially, that would only apply to those illnesses that are standardized. However, over a period of time, we will be going more and more in that direction, and I view that as a positive move.

The DRG system in New Jersey has proven to be a semi-cooperative effort between institutions and hospitals. We have gone through some difficult times together. We have not always been in agreement. But we have gotten through the process with reasonable success. And although we congratulate ourselves for having come this far, there is still inefficiency left in the New Jersey system.

We are beginning to see the economies that are resulting from the system. But as might be expected, we have those hospitals that are doing their absolute best and have brought about dramatic efficiencies and we have others that have not been efficient and do not measure up.

An escape valve exists in New Jersey through appealing the rates to the rate-setting commission. Many hospitals have chosen to argue the case vigorously in that form rather than take the harder choice of doing more about either management or physician behavior in their institutions. So we are going to have to work harder to reduce the inefficiencies in our system that are still present. I think we have a good system, but we are not all the way there yet.

We are also subject to what happens in the Health Care Financing Administration and in national legislation. We are a waivered State but that does not give us total immunity from whatever forces and changes come about. It is clear that the Medicare Trust Fund is the issue. The current thinking is to protect the Trust Fund by calling for more efficiencies. What could eventually happen is that the Medicare dollar will be separated into direct patient care and the other elements that are not direct patient care. The Medicare program wants to collect data on these various components so that if at some point they cannot pay for services that they have been paying for, they can determine what elements would be dropped.

I am particularly concerned about uncompensated care, which the Medicare program has paid for in many areas. There are hospital construction costs and educational and teaching costs, as well as the actual hands-on delivery of physician care. A careful scrutiny by the Medicare program of in-hospital costs versus those that are peripheral may present a serious problem for the States. We tend to focus on who should pay for uncompensated care; whether it would be a State tax or some other source. But we need to look at the driving force behind the uncompensated care bill before we figure out who is going to pay the tab. We are talking about jobs, education, and housing. There are members of our society that are not well-suited or well-educated enough to compete successfully. For our system to work well we have to put an immense effort into keeping people in the system, providing the education and training so that they can have jobs and, in turn, pay for better housing and stay healthy. The health care system is very much a part of the rest of the social forces in our economy. Those of us in policymaking positions have to keep that in mind.

New Jersey is an all-payors State, and we like it that way. In New Jersey, the uncompensated care bill is about $225 million. The total acute care inpatient hospital bill is about $3 billion. In addition, New Jersey spends approximately $500 million a year in capital facility replacement and improvement. As we look down the pipeline with intent to file certificates-of-need we will probably be approaching much bigger numbers. However, because of changes resulting from the cost-containment program in New Jersey, we don't think we are going to see applications coming in nearly as quickly as they have been. As for the educational aspects, with an all payor system, education is paid for in a hospital-specific fashion with the educational cost as a component of a DRG bill. It is hard to get a handle on the actual cost but we think it is approximately $150 million a year. Some people feel we have too much education in New Jersey.

How we pay for that--whether or not it should be instilled in hospital-specific costs or spread out through all the payors--is an interesting subject for debate. Basically, there are only three choices for paying these add-ons. One is the existing system in New Jersey where it is included in the DRG bill. The second one is the old approach of cost shifting which protects one particular beneficiary, one payor, but then adds cost to other elements of society. The third is use of a State tax, whether it's direct or indirect. If we went the State tax route than we would be talking half of $225 million. If your States are anything like our State, the voters are not in the mood for a tax increase. So although identifying these expenses separately and pulling them out would save Medicare money, somebody else would have to pick up the costs. As long as we can operate our system in New Jersey under waiver authority for the same or less than it would have cost if we had their system we can keep our system, and that is what we hope to do.

Quality of care has been discussed at this conference. In New Jersey, our PSRO's (professional standards review organizations) monitor all patients regardless of payors. In addition, the New Jersey Department of Health licenses hospitals and inspects hospitals. I also have the Commissioner's Physician Advisory Committee, which advises me on quality of care. Many people are concerned that the quality of care will be defined by the number of dollars in the DRG. That is the logical evolution. However, up to this point in time, the system has not resulted in a reduction of quality to the point that would produce a high level of concern.

In New Jersey, we have been able to recognize that a cost accounting system based on average costs per patient makes sense while acknowledging that there is no such thing as an average patient. However, over time as the system is fully implemented, the number of dollars in the DRG could well be the definition of the quality of care available for that specific illness. So we must be careful in determining what goes into DRGs, and it is our view that physicians should play a key role in making those determinations. Afterall, the quality of care is very much left up to the physicians and we think it would be inappropriate and wrong to have non-physicians making those kind of direct patient care decisions.

In New Jersey we have about 50 physicians on our committee, none of whom are members of the Department of Health, and they deliberate on basic issues of clinical indications for various treatments and costs versus benefits of available options. They tackle difficult decisions on what should or should not be included, and how rates must be adjusted accordingly. These sessions are not easy, but we feel that the responsibility is theirs and that it is appropriate for them to make these decisions.

You have all heard the results of the various quality studies that have been going on, such as those concerning early discharge. These studies have demonstrated that there is no impact on quality of care. Still, there is concern that malpractice events will increase because of early discharge. According to the underwriters, there has been some increase in malpractice events, but they are not attributable to the DRG cost accounting system. In most cases, they result from communication problems between the physician and the patient. A small percent involve a negligent event which occurred, and of course those have to be dealt with in a straight-forward fashion.

The bottom line for New Jersey is facing the challenge of the Federal system and its impact on our operation. If the national program is successful, Medicare costs are going to decline. We did a model of what it would have cost us if we had the national program. Our system is more expensive. If the national system does well, we will have to write a check at the end of the year or lose our system. So the challenge to New Jersey in this scenario is very clear; we have to become more efficient. If the Federal program does poorly, if it is not generally accepted or there are many hospital closings, it could negatively impact on us. Even though our program is different, we have the same name as the national program. Most New Jersey health professionals are familiar with the nuances and differences in our system, but the general public is not. The average person in New Jersey does not understand the changes that have taken place. If the national program did not go well, we might have a difficult time keeping our system, although the majority of parties involved in the health care industry in New Jersey favor the system at this point in time.

We have a lot of unknowns to deal with as we move toward more cost-effective approaches for health care. There are still many issues that need to be addressed. But it seems obvious that the major emphasis in providing adequate care at reasonable cost, whether it is at the State or national level, is the need for greater efficiency, and that is certainly our focus for the immediate future in New Jersey.

FUTURE IMPLICATIONS OF PROSPECTIVE PAYMENT

Ronald B. Milch, Chairman-Elect, Board of Trustees,
New Jersey Hospital Association

Diagnosis-Related Groups put New Jersey on the map, and now made those of us involved with the system instant experts. In discussing current and future implications of prospective payment, I will share with you some ideas that I have discussed in speeches to hospital administrators around the country. However, before I discuss the specifics of the DRG system, and its impact in New Jersey, and eventually on the entire country, I want to say that I believe, and I think most of my colleagues do as well, that the prospective reimbursement system is a better and more equitable reimbursement system than the traditional per diem reimbursement system and the New Jersey share system that was in place prior to DRG reimbursement. Also, I think we have to realize that prospective reimbursement is the beginning of a second revolution in the U.S. health care system. The first was the Medicare program itself. Now, roughly 20 years later, we are experiencing a significant change in the way health care will be paid for in this country. And with it comes some critical issues with which we have to deal.

The first aspect that I want to stress about prospective reimbursement (DRGs) is that it was a utilization review system that has been converted to a cost-containment reimbursement system. The Federal Government has adopted it as such, as have we in New Jersey, but we have done one significant thing that I feel, and the New Jersey Association feels, has been good for the health care system in New Jersey. It is an all-payors system, contrary to the Federal Medicare-only system. From my experience speaking to hospitals around the country, the single payor system of Medicare is doomed to failure. If you ask what is going to happen, hospitals anticipate tremendous cost shifting. Other third-party payors will not tolerate the shifting. If you look at some of the proposed Federal legislation coming from the Senate, legislation proposing an all-payors system is beginning to appear. About 17 States now have proposed an all-payors rate-review system, another indicator of a move toward an all-payors system. I think, therefore, the first implication of Medicare prospective reimbursement is that it is the forerunner for a national all-payors prospective system.

Secondly, and more significantly from a hospital management point of view, the ballgame has changed. Hospitals will be managed differently for survival. Cost accounting has come to hospitals, and this may be a good step for the industry. For the first time, we have a system that really pinpoints winners and losers with regard to physicians and hospital operations. You can determine which areas are efficient and effective and which are not. Also, it alters the relationships between administrators and physicians. The myth that was perpetrated over the years that hospital administrators make medical decisions now appears to be "a reality." And you are going to hear more of that as time goes on. Hospital decisions will be survival decisions. Your case-mix management will be based on the curtailment of or the addition of services that will affect the bottom line. You will begin to look at what has been euphemistically called bundling and unbundling.

There will be more aggressive management from hospital administrators, more risk taking, in terms of new technology and services, the closing of services, and also investment in capital technologies. Capital expenditures, for example, will be made by hospitals not so much on the basis of future reimbursement or actual reimbursement but on whether that capital or that technology can reduce the length of stay and make the hospital more efficient. You will also find, as a result of prospective payment, some form of vertical integration by hospitals, with the appropriate reorganization structure following a corporate model. There will be significant alternatives to in-hospital health care as hospitals look for ways to make acute care in the hospital setting more efficient. For example, the traditional home care program may develop into more sophisticated home health services, such as providing chemotherapy or renal dialysis at home.

Voluntary hospitals will also turn to for-profit business activities. You will begin to see mergers and closings of hospitals as survival decisions. There will be a major shift in emphasis by the for-profit (investor-owned) hospital organizations. The potential profit margins for investor-owned for-profits under a prospective reimbursement system will not be the same as under a cost-based system. The for-profits will move in the direction of using their vast organizations to manage hospitals of all types. They will profess, and probably rightly so, that they can do a more efficient and effective job in managing a hospital under a prospective reimbursement system. Only time will tell.

You will also see a shifting of personnel, both for good and bad reasons, for opportunities elsewhere, and for not having been successful in coping with the new system. In New Jersey, in the last 3 years, supposedly one-third of the chief administrative and financial officers have left their hospitals. The reasons I will leave to your imagination.

But what about the long-range implications? For example, what about the quality of care? I do not think prospective payment as a cost-containment system is going to solve quality issues. It will create problems, particularly under the Federal system. It is my belief that a single-payor prospective Medicare-only system will result in discrimination against the Medicare patient. When push comes to shove, hospitals operating under a prospective system for Medicare-only patients are going to contain their costs at the Medicare patients' expense because that is where the potential profits are. Physicians are going to be encouraged to practice, willingly or unwillingly, two standards of care—one for Medicare patients and one for all others.

Other long-term implications that the Federal prospective payment system does not deal with are capital formation, indigency care, and bad debts as our system does in New Jersey. These are difficult problems that we have faced within this industry for years, and prospective payment alone will not solve them. Although prospective payment will reduce Medicare costs, it does not address long-run problems. Do we have too many services? Are there enough or too many beds? Are we planning effectively to fund other than acute-care services to long-term care and other alternatives in an aging Nation? The issue is not really prospective reimbursement. The issue is whether 5 percent, 10 percent, or 20 percent of our gross national product is the appropriate amount of money to spend for health care. Prospective payment will not answer the question.

We in New Jersey have effectively faced many difficult issues. I think we have worked well with our Department of Health and will continue to do so. On balance, prospective reimbursement has proven to be a reasonable system. The more difficult elements of cost reimbursement have been included in our system. That is not true for the Federal system. Prospective payment is the first step in trying to develop a more rational way to reimburse hospitals. It will not, however, solve the more basic problems of our health care system.

IMPLICATIONS OF DRGs

Stanley S. Bergen Jr., M.D.
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Diagnosis-Related Groups (DRGs) have had a challenging effect on teaching institutions and the medical education system here in New Jersey. We have tried to adapt not only through our teaching hospitals, but also through our medical school curricula. All three of our medical schools are incorporating into their curricula what we call a primary health care program, which includes educational materials on DRGs, their impact on hospitals, and, more important, their impact on the young physician of today and tomorrow.

There is no doubt that, here in New Jersey at least, we would be in big trouble if we did not have the waiver. If the time comes when we no longer have the waiver, the medical education component will be difficult to fund, particularly for those institutions that are inner-city public hospitals but also major teaching hospitals. The outlier component, which controls costs for a segment of our patients, and the bad debt or uncompensated care component are two elements in our system that are allowing us to keep our hospitals going and to underwrite, to a certain extent, medical education costs.

Under DRGs, medical education costs are for the first time very vulnerable. All one has to do is find out what the DRG rate is for a community hospital, compare it with a teaching hospital's rate for the same DRG, and everybody will say that the difference is teaching costs, whether it is or not. I think we are coming to the realization in New Jersey, and the trend is beginning to occur even nationally, that we no longer can rely solely on the patient to support medical education costs and, therefore, we have to devise a new system. We have to find another way of paying for these costs.

There seem to be two general mechanisms that could be used: (1) a payment source other than patient-care revenue; or (2) spreading medical education costs through all hospitals' rates. The public might be wary of a new tax to pay for medical education costs; the issue might become political and, therefore, difficult to resolve. I suggest instead the addition of a surcharge on all hospitals' rates, a surcharge which would be pooled so that everybody would carry part of the burden of medical education. After all, every hospital benefits from medical education, from the generation of new health personnel and from development of new knowledge and technology. I think a major limiting factor for enrollment in our medical schools in the future will be the number of graduate medical education slots that will be available for those students to go into. It makes no sense to graduate 20,000, 15,000, or even 12,000 from our medical schools in the United States, supplemented by many coming from overseas, if we do not have or do not need those individuals in residency training programs. No one knows what the future is going to be, how much the system will be able to afford in graduate medical education, how that will be paid for, or even how many physicians we actually will need. However, I think DRGs will help us to determine the number of physicians we have or will need, particularly as they are extended into physician reimbursement processes. It can be argued that we do not have too many physicians at present, but whether there are already too many in the pipeline is a significant question. There is little we can do about the numbers now in the pipeline. We are committed for the next 8 years as to how many physicians will be available to practice in the United States, even if we should drastically cut the enrollments in our schools right now. While a balance has to be struck, I think that we are realizing that a large number of graduates means we have physicians available to staff alternate modes of care. We have physicians willing and able to go into health maintenance organizations, to work in emergency rooms, to work for corporations, and to staff the more than 1,000 emergi-centers throughout the country.

Although the subject of emergi-centers is controversial, it is important to note that, according to a recent study, of the 10 percent of the population that use these emergi-centers, 90 percent would used them again. Why would they go back? Because the physicians saw them quickly, the staff seemed to care for them and their problems, and the cost was reasonable. Note that the fact that it was cheaper to go to an emergi-center was listed as the third factor. It was more important that the physician saw them rapidly and that the staff of the emergi-center was attentive to their needs.

The marketplace is going to take care of the question of too many physicians, as I think what we have seen happen in dentistry in the last few years would indicate. Dentistry hit a peak enrollment in 1978. There were just short of three qualified applicants for each of the approximately 6,000 positions in dental schools around the Nation at that time. The number of positions available in dental schools in the 1984 cycle will be probably 4,900. This is the first time it has dipped below 5,000 in many years. What is the factor here dictating this? Well, students no longer see dentistry as an attractive economic option. The reasons are two-fold. First, they are worried about the number and the availability of patients; they see many desirable areas already saturated by dentists, as well as more efficient modes of dentistry being developed. Secondly, they cannot afford to go into dentistry. Tuition and ancillary costs are high for dental school. Also, banks are not as eager to loan dentists money to start their offices anymore.

There are social implications to having an excess of physicians beyond increased responsiveness to the needs of the public's health. We are going to find that our physicians and other health care personnel will be working more reasonable hours and assignments. While this may mean a lower level of income, I find that our students at least have accepted this realization and seem to be coping with it rather well. I teach a seminar course in the spring each year, and I usually take a poll at the end of the course to identify the kind of practice the students are going into. In the early 1970's, it was about 50 percent for private practice and 50 percent for structured kinds of health care. Then, in the mid- and late-1970's, nearly 100 percent of the people were initially going into a salaried job while they got their feet on the ground and paid off some of their debts. I think that had some relationship to the fact that there was a great feminization taking place in our medical schools. Thirty percent of our student body consists of women and I think they have different objectives in their careers and look for different types of settings. Last year when I asked, the students said don't ask us that question, tell us where there is a job. So physicians are going into different kinds of work, eager to do that, accepting it, and also at the same time realizing that the level of earning, the level of economic reward is going to be less.

Now I don't for one minute say that this has happened universally already. In fact, there is a strange paradox that may be part of the transition phase occurring now. I find that some salaries and incomes of physicians are incredible, and they continue to increase. Yet I see many physicians, particularly the younger ones, working for less as their total income. In addition to being a physician, it is not unusual to find them involved in other kinds of activities, for instance they have working farms or they moonlight as musicians. There are many ways of adapting to changing situations.

We have to make some hard decisions here in the United States about how many graduate medical education slots we can afford, how many we need, and where they should be placed. That should be done on a State or regional basis and, after those determinations are made, funds should be distributed appropriately, possibly through the DRG system, to those institutions that can carry out graduate education in the best form. If other hospitals want to have a residency program, they will have to find another way to pay for it, either through gifts, grants, or some other way, because it is not going to be supported through the system.

Lastly, I would just like to touch on the ethical issue of prospective payment. As we tighten down on the health care system financially, are we going to drive it back to a two-class system? I think the answer is yes, and unless we take note of the ethical issue involved, there could be serious implications to such a system. Will hospitals and physicians go back to the old system of the 1940's and the 1950's and give free care? When I started in my internship and residency, we worked for $25 a month. It is now estimated that 75 percent of all people that live to be 65 years old arrive at that age broke. Now, obviously, these people are not broke in the sense that they do not have any money or own a house, but broke as far as resources go for supporting themselves if they live to be 80 or 85. If we do not find a way to continue the level of health care for those people who cannot afford it, whether it is because they are old and have worked as much as they can, or whether it is because they are poor and have some other disadvantage, then I think we are going to have a very serious issue before us.

It is going to be a challenging and exciting future, but we have to be humane in what we do, to think of those who are less fortunate, and remember that here in the United States we probably have the best health care system in the world. We should all be proud of our system; it is envied by the rest of the world, an object of prestige in the family of nations. Although it may be overgrown and burdened with excessive costs, we must be careful that, as we bring those elements of obesity back into line and trim down the system, we do not cause malnutrition to the point of a morabund system unable to serve those in need and unable to respond to human health concerns.

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